CARRICK HISTORICAL LANDFILL

Environmental Risk Assessment Report (Tier 3)

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EXECUTIVE SUMMARY

RPS was appointed by Donegal County Council to undertake a Tier 1, 2, and 3 Environmental Site Investigation and Risk Assessment of an area of land to the east of Carrick, Co. Donegal in accordance with the EPA Code of Practice for Environmental Risk Assessments for Unregulated Waste Disposal Sites.

The risk assessment was based on a desk study of available information, a walkover survey and a site investigation carried out by Causeway Geotech Ltd under the supervision of RPS. The investigation made provision for contamination testing of; soil samples, groundwater and surface water samples and the monitoring of ground gases.

The key findings of the report are as follows:

1. Site History

The site was council owned and was in operation from 1975 to 1983 accepting municipal waste. Historic mapping held on file by Ordnance Survey of Ireland (6 inch colour 1829-1841 and 25 inch black and white 1897-1913) was consulted to ascertain the previous use of the site. The site appears to have been undeveloped and in agricultural use. It is noted from both the 1829-1841 and 1897-1913 surveys that the access road was previously classified as a main road.

2. Ground Conditions

The exploratory investigation made provision for six (6) boreholes to a maximum depth of 7.25m below ground level. The site investigation logs indicate that the site is underlain by the following general sequence:

- Made Ground (with fully decomposed waste consisting of glass, plastic, metal and bricks)
- Peat
- Glacial Till
- Gravel
- Bedrock (Grey Schist)

3. Groundwater Conditions

During the site investigation, groundwater was encountered perched on boulder clay beneath the waste body and within the underlying Schist bedrock.

4. Ground Contamination

Chemical analysis of soil results indicated that all samples recorded contaminant concentrations below generic screening values for a commercial end use.

5. Groundwater Contamination

Monitoring and laboratory analysis of groundwater and surface water samples was undertaken on two occasions in 2012, two occasions in 2013 and on two occasions in 2020. Chemical analysis of the shallow groundwater perched beneath the waste body indicated that this groundwater body had been impacted by Ammoniacal Nitrogen, Hydrocarbons and PAHs which are likely to be a result of leaching from the waste body. Analysis of deep groundwater and surface water samples indicates that the TPH and PAH contamination is confined to the shallow groundwater beneath the waste body.

Elevated levels of Iron and Manganese were detected in the majority of groundwater and surface water samples however this is likely to be from natural causes.

6. Gas Assessment

Concentrations of Methane and Carbon Dioxide were monitored within the three boreholes installed within the waste body on four occasions. Low levels of Methane and slightly elevated levels of Carbon Dioxide were detected. The risk to the adjacent residential receptor is deemed to be low due to a lack of vertical and horizontal pathways.

7. Risk Assessment

A review of the Conceptual Site Model (CSM) indicated that contaminant linkages in relation to human health do not exist at the site. In relation to environmental receptors, the laboratory results indicate that the contaminated shallow groundwater perched beneath the waste body is not impacting upon the adjacent surface water receptor or the deeper bedrock aquifer.

8. Remedial Recommendations

As the risk to surface water quality is Low, no remedial measures are required other than the decommissioning of boreholes upon EPA agreement. It is proposed that the six boreholes present onsite (BH01-BH06) should be decommissioned in line with Scottish Environment Protection Agency (SEPA) guidance ‘Good Practice for Decommissioning Redundant Boreholes and Wells’. Decommissioning works involve the backfilling, sealing and capping of the boreholes at an estimated cost of €2,100.00.

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1 INTRODUCTION

1.1 Terms of Reference

RPS was commissioned by Donegal County Council (DCC) to undertake a Tier 1 Preliminary Assessment Report, Tier 2 main site investigation and Tier 3 Risk Assessment and refinement of the preliminary Conceptual Site Model (CSM) of an area of land to the east of Carrick, Co. Donegal in accordance with the EPA Code of Practice for Environmental Risk Assessments for Unregulated Waste Disposal Sites. This report outlines the Tier 3 Risk Assessment.

This report should not be read in isolation from the Tier 1 Preliminary Assessment Report and the Tier 2 Exploratory Investigation and Risk Assessment Report. It is intended that only selected information that is included within the Tier 1 and Tier 2 reports is repeated within this report for clarification purposes. This Tier 3 report supersedes any previous revisions

1.2 Objectives

The specific aims of this Tier 3 Risk Assessment were to:

- Confirm the vertical and horizontal extent of waste material within the site;
- Further assess any potential risks to human or environmental receptors associated with the presence of the waste material and elevated contaminant levels recorded during the Tier 2 exploratory investigation.
- Provide an outline strategy in relation to the management and remediation of the site, if deemed necessary.

1.3 Overall Methodology

In order to achieve the above objectives the following scope of work was undertaken:

- Design and Implementation of a Soil and Groundwater Site Investigation in accordance with BS 10175.
- Quantitative assessment of risks to human and environmental receptors in accordance with the Environmental Protection Agency (EPA) Code of Practice for the Environmental Risk Assessment for Unregulated Waste Disposal Sites, 2007.
- Preparation of a report as per Chapter 8 “Reporting Requirements” in the EPA Code of Practice for Environmental Risk Assessment for Unregulated Waste Disposal Sites, 2007.

2 TIER 2 – EXPLORATORY SITE INVESTIGATION WORKS

2.1 Objectives

The overall objective of the exploratory site investigation was to reduce the uncertainty with regard to the site, by obtaining information on:

- The nature of the waste;
- The volume and extent of waste;

2.2 Site Investigation Strategy

RPS undertook a Tier 2 Exploratory Site Investigation on 13th June 2012 which involved advancing a number of trial pits across the site.

The site investigation works were carried out with reference to the following best practice guides for Contaminated Soils and Groundwater site investigations:

- *BS 10175* Investigation of potentially contaminated sites - Code of practice;
- Land Contaminated Risk Management published by the UK Environment Agency, October 2020.
- *ISO standards* for soil and groundwater analysis and sampling;
- Relevant Health and Safety Regulations and Guidance (including the Health, Safety and Welfare at Work Act 2005, and Safety, Health and Welfare at Work (Construction) Regulations 2006, SI 504/06;
- EPA Code of Practice Environmental Risk Assessment for Unregulated Waste Disposal Sites, 2007, and,
- Environment Agency (EA) Guidance on Assessment of Risks from Landfill Sites.

2.3 Site Management

The site investigation works were carried out on 13th June 2012 by an Environmental Scientist from RPS in conjunction with a 20 tonne tracked excavator operated by a private contractor.

2.4 Underground Service Location

No underground site services exist across the site.

2.5 Trial Pitting

Eight trial pits (TP01 to TP08) were excavated within and around the site ranging in depth between 0.3 and 4.0m bgl.

All trial pits were excavated using a mechanical excavator and were back filled on completion by replacing material in the order in which it was excavated. The following information was recorded during the excavations:

- Material descriptions;
- Groundwater presence;

- Visual evidence and extent of contamination; and,
- Olfactory evidence of contamination.

The geological strata were described from visual inspection of the excavation walls and from the arisings brought to the surface. Particular attention was paid to any evidence of contamination, visual or olfactory, on soil or in groundwater. The number of soil samples taken was dependent upon the variability of materials encountered and the perceived level of contamination.

2.6 Chemical Analysis of Sample

The laboratory used for chemical analysis of soil and groundwater samples was Alcontrol Laboratories. The laboratory is ISO 17025, UKAS and MCERT accredited.

The analytical suite of tests used for both soil and groundwater analyses were determined as most suitable to assess environmental risk.

Soil and groundwater samples were analysed for the general suite of parameters listed in Table 2.1.

Table 2.1 Summary of Laboratory Analysis

Soil Analysis Suite	Groundwater Analysis Suite	Surface Water Analysis Suite
• Heavy Metals • Sulphate, Sulphide, Chloride, Cyanide, Thiocyanate, Asbestos • pH • Organic matter content • Petroleum Hydrocarbons • Polychlorinated Biphenyls (PCBs) • Benzene, Toluene, Ethylbenzene & Xylene (BTEX) • Polycyclic Aromatic Hydrocarbons (PAH) • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Waste Acceptance Criteria (WAC) eluate analysis	• Heavy Metals • Sulphate, Sulphide, pH, Ammoniacal Nitrogen, Electrical Conductivity, Chloride, Total Alkalinity, Total Nitrogen, Total Organic Carbon, Total Oxidised Nitrogen, Sodium, Suspended Solids, Fluoride, Potassium, Calcium, BOD, COD, Nitrite, Nitrate, Magnesium, Cyanide, Manganese and Phosphate • Organic matter content • Phenols • Petroleum Hydrocarbons • Polycyclic Aromatic Hydrocarbons (PAH) • BTEX • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Polychlorinated Biphenyls (PCBs) • Organochlorine Pesticides • Herbicides • Phenoxy Acid herbicides • Organophosphorous Pesticides	• Heavy Metals • Sulphate, Sulphide, pH, Ammoniacal Nitrogen, Electrical Conductivity, Chloride, Total Alkalinity, Total Nitrogen, Total Organic Carbon, Total Oxidised Nitrogen, Sodium, Suspended Solids, Fluoride, Potassium, Calcium, BOD, COD, Nitrite, Nitrate, Magnesium, Cyanide, Manganese and Phosphate • Organic matter content • Phenols • Petroleum Hydrocarbons • Polycyclic Aromatic Hydrocarbons (PAH) • BTEX • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Polychlorinated Biphenyls (PCBs) • Organochlorine Pesticides • Herbicides • Phenoxy Acid herbicides • Organophosphorous Pesticides

2.7 Environmental Soil Sampling

A total of eleven soil investigation samples were collected from the trial pits and sent for laboratory analysis after visual and olfactory screening.

2.8 Environmental Groundwater & Surface Water Sampling

One grab sample of groundwater was obtained from groundwater ingressing into TP01 and two samples were obtained from the adjacent stream; SW1 upstream of the site and SW2 immediately downstream.

It is acknowledged that sampling groundwater from trial pits is not considered best practice in accordance with the guidance presented within BS 10175 as ground disturbance may lead to a sample that is not fully representative of the groundwater beneath the site. However, the guidance does state that such a sample may be used to provide preliminary information on groundwater quality.

2.9 Tier 2 Preliminary Investigation Conclusions

The Tier 2 preliminary assessment concluded the following:

- Waste material appears to be confined to within the known site boundary.
- Waste material comprising of glass, metal, plastic and fabric was evident within the site to a depth of 2.2m bgl.
- Schist bedrock was encountered within TP02, TP03, TP04, TP06, TP07 and TP08. Bedrock was encountered within TP03 at 0.3m bgl and at a maximum depth of 2.9m bgl in TP02.
- Shallow groundwater was encountered within TP01, TP02, TP03 and TP08 between 0.80m and 2.80m bgl.
- Chemical analysis of soil results indicated that the majority of samples recorded contaminant concentrations below generic screening values for a commercial end use.
- An elevated concentration of Total PCBs was recorded in the sample from TP01 0.5m bgl.
- Asbestos (amosite and chrysotile) was identified within two samples; TP01 0.5m and TP02 0.8m bgl. The risk to human health from asbestos is considered to be low given the low levels (0.0038%) and that the material is buried beneath the site.
- Chemical analysis of one groundwater ‘grab’ sample from TP01 indicated elevated concentrations of a number of contaminants; Ammoniacal Nitrogen, Manganese, Benzo(a)pyrene and TPH.
- It is likely that the shallow groundwater has been impacted by contaminants leaching from the waste however due to sampling the groundwater from trial pits, this cannot be fully quantified.
- Phthalates were detected within the downstream surface water sample and within the grab samples from TP01 indicating that contaminants are possibly leaching from the site and impacting upon the adjacent stream.

2.10 Tier 2 Preliminary Investigation Recommendations

The Tier 2 preliminary investigation recommended that the following additional works should be undertaken as part of a Tier 2 Main Site Investigation:

- A number of boreholes should be advanced within the site with at least one borehole upstream and downstream of the waste body. Boreholes should be targeted to the shallow groundwater.
- At least two rounds of monitoring of shallow groundwater and upstream and downstream surface water sampling should be undertaken for a similar suite of analysis as carried out during the preliminary assessment to ascertain if contaminants are leaching from the site.
- A number of these boreholes should also be used for gas monitoring to assess the gas risk (if any) from the site. At least four rounds of monitoring should be undertaken over at least a one month period with one round at low atmospheric pressure (<1000 mb).

The conceptual model of the site and the risk assessment should be updated and modified as part of a Tier 3 Assessment depending on the outcome of the additional investigation and monitoring.

3 TIER 2 – MAIN SITE INVESTIGATION WORKS

3.1 Objectives

The overall objective of the Tier 2 main site investigation was to reduce the uncertainty with regard to the site, by obtaining information on:

- The volume and extent of waste;
- The presence of any leachate or gas produced within the waste;
- The risks posed to surface water and the groundwater beneath the site; and
- The risks posed to nearby human health receptors.

The nature of the waste was previously confirmed during the trial pitting activities undertaken during the Tier 2 exploratory site investigation.

3.2 Site Investigation Strategy

A Tier 2 Main Site Investigation was undertaken on 31st October and 1st November 2012 by Causeway Geotech Ltd under the supervision of RPS. The investigation comprised the following;

- Six (6) boreholes to a maximum depth of 7.25m;
- Collection of soil, groundwater and surface water samples;
- Monitoring of ground borne gases (Carbon Dioxide and Methane).

The site investigation works were carried out with reference to the following best practice guides for Contaminated Soils and Groundwater site investigations:

- *BS 10175:2011* Investigation of potentially contaminated sites - Code of practice;
- *BS 5930:1999* Code of practice for site investigations (Partially superseded but remains current and is cited in Building Regulations);
- *Contaminated Land Research Report 11* Model procedures for the management of land contamination;
- *ISO standards* for soil and groundwater analysis and sampling;
- Relevant Health and Safety Regulations and Guidance (including the Health, Safety and Welfare at Work Act 2005, and Safety, Health and Welfare at Work (Construction) Regulations 2006, SI 504/06;
- EPA Code of Practice Environmental Risk Assessment for Unregulated Waste Disposal Sites, 2007, and,
- Environment Agency (EA) Guidance on Assessment of Risks from Landfill Sites.
- CIRIA C682 VOCs handbook

3.3 Site Management

The site investigation works were carried out on 31st October and 1st November 2012 by Causeway Geotech Ltd under the supervision of RPS.

3.4 Underground Service Location

No underground site services exist across the site.

3.5 Boreholes - Deep

Three boreholes (BH01 – BH03) were advanced outside of the main waste body to a maximum depth of 7.25m using a Commacchio 205 dual purpose dynamic sampling and rotary drilling rig. The boreholes were advanced through the natural strata with follow by rotary drilling into the underlying Schist bedrock. The locations of the boreholes are presented in Figure 3.1. The borehole logs are presented in Appendix A.

The geological strata were described from visual inspection of the arisings brought to the surface. Particular attention was paid to any evidence of contamination, visual or olfactory, on soil or in groundwater. The number of soil samples taken was dependent upon the variability of materials encountered and the perceived level of contamination.

All three boreholes were installed with 50mm HDPE groundwater monitoring standpipes with the response zone based within the Schist bedrock.

3.6 Boreholes - Shallow

Three boreholes (BH04 – BH06) were advanced within the main waste body to a maximum depth of 6.70m using a Dando Terrier rig. The boreholes were advanced through the waste material and underlying natural strata and were terminated on encountering bedrock. The locations of the boreholes are presented on Figure 3.1. The borehole logs are presented in Appendix A.

The geological strata were described from visual inspection of the arisings brought to the surface. Particular attention was paid to any evidence of contamination, visual or olfactory, on soil or in groundwater. The number of soil samples taken was dependent upon the variability of materials encountered and the perceived level of contamination.

All three boreholes were installed with 50mm HDPE groundwater monitoring standpipes with the response zone based within the waste material. A bentonite seal was placed between the waste material and underlying bedrock to ensure that a vertical contaminant pathway was not created.

3.7 Chemical Analysis of Samples

The laboratories used for chemical analysis of soil, groundwater and surface water samples were Chemtest and Alcontrol. The laboratories are ISO 17025, UKAS and MCERT accredited.

The analytical suite of tests used for both soil and groundwater analyses were determined as most suitable to assess environmental risk.

Soil, groundwater and surface water samples were analysed for the general suite of parameters listed in Table 3.1.

Table 3.1 Summary of Laboratory Analysis

Soil Analysis Suite	Groundwater Analysis Suite	Surface Water Analysis Suite
• Heavy Metals • Sulphate, Sulphide, Chloride, Cyanide, Thiocyanate, Asbestos • pH • Organic matter content • Petroleum Hydrocarbons • Polychlorinated Biphenyls (PCBs) • Benzene, Toluene, Ethylbenzene & Xylene (BTEX) • Polycyclic Aromatic Hydrocarbons (PAH) • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Waste Acceptance Criteria (WAC) eluate analysis	• Heavy Metals • Sulphate, Sulphide, pH, Ammoniacal Nitrogen, Electrical Conductivity, Chloride, Total Alkalinity, Total Organic Carbon, Total Oxidised Nitrogen, Total Nitrogen, Sodium, Potassium, Calcium, BOD, COD, Nitrite, Nitrate, Magnesium , Manganese, Fluoride, Phosphate, Cyanide, Suspended Solids • Organic matter content • Petroleum Hydrocarbons • BTEX • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Polycyclic Aromatic Hydrocarbons (PAH) • Polycyclic Biphenyls (PCBs) • Organochlorine Pesticides • Herbicides • Phenoxy Acid herbicides • Organophosphorous Pesticides	• Heavy Metals • Sulphate, Sulphide, pH, Ammoniacal Nitrogen, Electrical Conductivity, Chloride, Total Alkalinity, Total Organic Carbon, Total Oxidised Nitrogen, Total Nitrogen, Sodium, Potassium, Calcium, BOD, COD, Nitrite, Nitrate, Magnesium , Manganese, Fluoride, Phosphate, Cyanide, Suspended Solids • Organic matter content • Petroleum Hydrocarbons • BTEX • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Polycyclic Aromatic Hydrocarbons (PAH) • Polycyclic Biphenyls (PCBs) • Organochlorine Pesticides • Herbicides • Phenoxy Acid herbicides • Organophosphorous Pesticides

3.8 Environmental Soil Sampling

A total of 18 soil investigation samples were collected from the boreholes and sent for laboratory analysis after visual and olfactory screening. The laboratory analytical results are presented in Appendix A.

3.9 Environmental Groundwater & Surface Water Sampling

Two rounds of groundwater sampling from all six boreholes were undertaken in November 2012. As per the guidance contained within the EPA Landfill Monitoring Guidelines 2003, the first round was analysed for a full suite of parameters whilst the second round was analysed for an indicator suite of parameters (Table C2 of the Landfill Monitoring Guidelines). An initial screen of the laboratory results indicated the presence of elevated levels of hydrocarbons and PAHs in a number of groundwater samples. Therefore a third round of groundwater monitoring including these contaminants of concern was carried out in January 2013 with a follow up fourth round in November 2013. Both shallow and deep boreholes were targeted during monitoring Rounds 1-4.

Three surface water samples (one upstream SW01 and two downstream SW02 and SW03) were also taken from the adjacent stream during all four monitoring rounds.

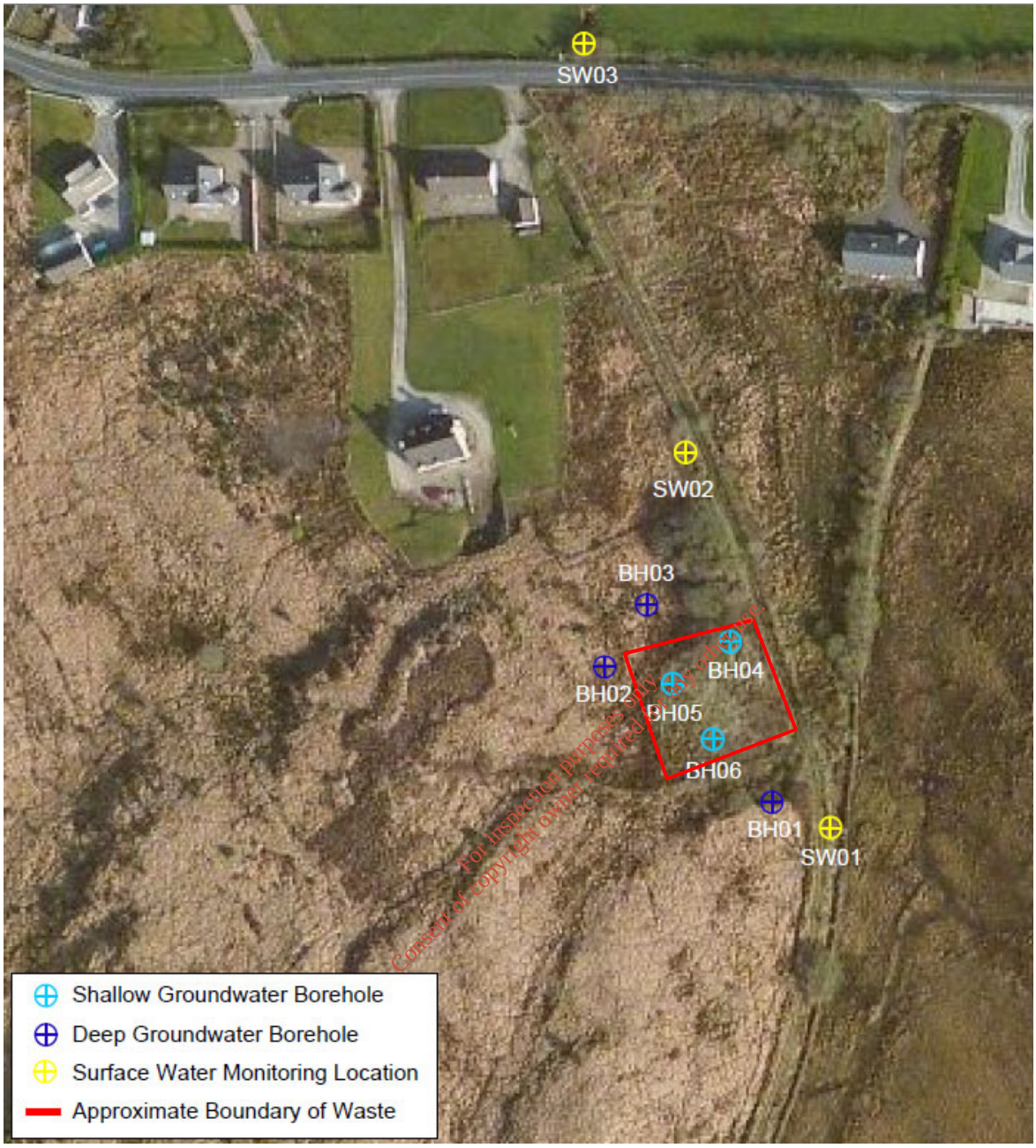
The laboratory analytical results for monitoring Rounds 1-4 are presented in Appendix C.

3.9.1 Supplemental Monitoring

A further two rounds of groundwater and surface water monitoring (one upstream and two downstream) were undertaken in October 2020 to confirm the findings of the 2012 and 2013 monitoring. Surface water, deep boreholes BH01, BH02 and BH03 and shallow borehole BH06 were monitored in Rounds 5-6. Unfortunately, deep boreholes BH04 and BH05 could not be located and no samples were able to be taken from these boreholes. The groundwater and surface water samples were sent to ALS Life Sciences Ltd for laboratory analysis (See Section 6.0) and the results (Rounds 5-6) are presented in Appendix D.

The location of the groundwater and surface water sampling points is presented in Figure 3.1. A topographical survey of borehole locations was undertaken in November 2012. The boundary in Figure 3.1 is the approximate boundary of the waste body based on the location of trial pits and boreholes where waste was encountered.

Figure 3.1 Groundwater and Surface Water Sampling Locations



4 SUMMARY OF GROUND CONDITIONS ENCOUNTERED

4.1 Sub-Soils

The ground conditions indicated by the exploratory investigations are described in the exploratory hole logs presented in Appendix A and are briefly summarised below.

The site investigation logs indicate that the site is underlain by the following general sequence:

- Made Ground (with fully decomposed waste)
- Peat
- Glacial Till
- Gravel
- Bedrock

Made Ground

Made Ground was encountered within BH04, BH05 and BH06 from 0.0m to 2.90m bgl and predominantly consisted of;

- Soft brown TOPSOIL with cinders and cobbles (Domestic Waste),
- Soft brown CLAY with cinders (Domestic Waste).

Peat

Peat was encountered at the surface within BH01, BH02, BH03, BH04 and BH05 from 0.0m to 2.5m bgl which consisted of;

- Spongy dark brown pseudo-fibrous PEAT.

Peat was encountered at the surface at the above locations however it was encountered at a depth of 1.90m – 2.20m bgl in BH06 directly underneath the waste layer.

Glacial Till

Glacial Till was encountered within BH01, BH02, BH03, BH04, BH05 and BH06 ranging in thickness from 0.4m (BH01) to 2.4m (BH04) and predominantly consisted of;

- Grey brown silty gravelly CLAY,
- Soft to firm grey/blue silty gravelly CLAY
- Soft to firm greenish grey sandy gravelly SILT.

Glacial till was generally encountered beneath the Peat and directly beneath the waste layer.

Gravel

Gravel was encountered within BH04, BH05 and BH06 ranging from 4.8m to 6.7m bgl and predominantly consisted of;

- Dense green/brown sandy silty angular to subrounded fine to medium GRAVEL.
- Gravel was generally encountered just above the Schist bedrock.

Bedrock

Schist bedrock was encountered within BH01, BH02, BH03, BH04 and BH06. Possible bedrock was encountered within BH05 at 6.70m bgl. Bedrock was encountered within BH01 at 0.6m bgl and at a maximum possible depth of 6.70m bgl in BH05.

Waste Material

Waste material comprising glass, metal, plastic and fabric was evident within the made ground horizon in BH04, BH05 and BH06 to a maximum depth of 2.9m bgl. These test locations were located within the footprint of the former landfill. BH01, BH02 and BH03 were located outside the footprint of the former landfill and no waste material was encountered at these locations. The waste material was fully decomposed with no organic material evident.

During the Tier 2 preliminary site investigation works, waste material was encountered within the made ground horizon in TP01, TP02, TP04, TP05 and TP06 to a maximum depth of 2.2m bgl.

The approximate boundary of the waste body is based on the location of trial pits and boreholes where waste was encountered. The area of the waste body is estimated to be 0.08 hectares. Based on the maximum depth of 2.9m bgl, the volume of waste material beneath the site is estimated to be 2,378m^3. In accordance with the EPA Code of Practice, waste tonnages should be calculated with the conversion table set out in Schedule 1 to the Waste Management (Landfill Levy) Regulations 2015 (SI No 189 of 2015). As the waste falls into either the “Household waste – not compacted” or “Household waste – compacted (includes all bulk disposals” categories, the higher conversion factor of 0.4 cubic metres to tonnes was used in accordance with the regulations. This equates to 951 tonnes of waste.

4.2 Hydrogeology

4.2.1 Groundwater Observations

During the site investigation, groundwater was encountered within all six test locations and are summarised in Table 4.1. Two groundwater bodies were evident during the site investigation; shallow groundwater perched on boulder clay beneath the waste body and deep groundwater within the underlying Schist bedrock.

Table 4.1 Summary of Water Strikes during Drilling

Exploratory Hole	Depth of Water Strikes / Seepages (m.b.g.l)	Summary of Ground Conditions where Water Strikes / Seepages Encountered
BH01	Strike at 0.60m	Schist Bedrock
BH02	Strike at 2.25m	Schist Bedrock
BH03	Strike at 4.00m	Schist Bedrock
BH04	Strike at 2.20m	MADE GROUND: Soft brown topsoil with cinders and cobbles (Domestic Waste)
BH05	Strike at 2.90m	MADE GROUND: Soft brown Clay with cinders (Domestic Waste)
BH06	Strike at 2.20m	Spongy brown pseudo-fibrous PEAT

4.2.2 Standing Groundwater

Standing groundwater levels within installed boreholes were monitored on six occasions between 23rd November 2012 and 7th January 2013, using an acoustic dip-meter. Groundwater levels were also recorded during purging on 5th and 19th October 2020. Groundwater levels are presented in Table 4.2.

Table 4.2 Groundwater Monitoring (06/11/2012 to 19/11/2020)

Borehole No.	Surface Level (mOD)	Groundwater Level (mOD)					
		6-Nov-12	14-Nov-12	5-Dec-12	9-Jan-13	5-Oct-20	19-Oct-20
BH01	53.293	53.023	53.173	53.163	53.113	52.823	52.933
BH02	50.626	50.602	50.626	50.626	50.612	50.566	50.456
BH03	49.964	49.964	49.964	49.930	49.964	49.764	49.724
BH04	51.485	nm	49.904	49.864	49.844	NM	NM
BH05	52.085	nm	50.337	50.317	50.497	NM	NM
BH06	52.837	50.517	51.297	51.267	51.207	50.987	50.677

nm = Not Monitored due to fault in dipmeter.

NM=Boreholes BH04 and BH05 could not be located in 2020.

The monitoring indicates that the groundwater flow is in a northerly direction towards the R263 road.

5 GROUND CONTAMINATION

5.1 Introduction

The results of the laboratory analysis were used to carry out a generic quantitative risk assessment (GQRA).

A summary of the geochemical test results are presented in Appendix B. Within these tables, those cells with no recorded values, indicate that the samples were not scheduled for that particular suite of analysis.

5.2 Risk Assessment Methodology

5.2.1 Human Health Risk Assessment Framework

In the absence of Irish legislation and guidance in relation to human health risk assessment, reference has been made to UK guidance. The UK Environment Agency has published guidance in relation to assessing the potential risk from contaminated land to human health. Science Report SR2 'Human Health Toxicological Assessment of Contaminants in Soil' and Science Report SR3 'Updated Technical Background to the CLEA Model' are intended to replace CLR 9 and 10 respectively and together with Land Contamination Risk Management (LCRM) provide the most up to date framework for human health risk assessment within the UK.

CLR10 previously stated that 'the contamination is assumed to be at or within 1m of the surface' (CLR10 pg 10). SR3 contains a brief discussion *of contamination depth on p13 and although it does not specifically mention a depth of 1.0m it states that 'it is assumed that the pollution is at the surface or close to it' and 'whether or not soil contamination at greater depth or beneath hard standing poses a risk to health depends on the importance of the contact pathways (primarily ingestion and dermal contact) and the likelihood that such soils may be brought to the surface through activities such as gardening or building works*'. For the purpose of this assessment therefore, it is considered that at depths greater than 1m, the probability of human exposure via the direct contact pathways are significantly reduced.

5.2.2 Published Generic Site Assessment Criteria

In order to assess the human health and environmental risks posed by potential contaminants within the underlying soils, RPS undertook an initial screen of the laboratory results using the 2015 LQM/CIEH Suitable 4 Use Levels (S4ULs) (Copyright Land Quality management Limited reproduced with permission; Publication Number S4UL3474. All Rights Reserved) as trigger values. Where contamination results are recorded above these S4ULs, further assessment of the risks or remedial action may be needed.

These LQM/CIEH S4ULs replace the second edition of the LQM/CIEH Generic Assessment Criteria (GAC) published in 2009. Differences in modelling assumptions and added land uses and substances create the difference between these S4ULs and the previous GAC. These values are provided for 6 land use classifications:

- Residential with home grown produce
- Residential without home grown produce

- Allotments
- Commercial
- Public open space near residential housing
- Public open space Park

These values have been adopted within this investigation as they provide the most up to date trigger values that are based on appropriate and rationale assumptions. Similarly to the previous GAC, the S4ULs are provided for 1%, 2.5% and 6% soil organic matter (SOM). In the absence of complete analysis of SOM at the site, generic values derived for a SOM value of 1% have been utilised in the risk assessment where possible to ensure the most conservative approach is taken.

For pollutants with no relevant S4ULs, assessment criteria were provided by the following publications:

- Soil Guideline Values (SGVs)
- The Soil Generic Assessment Criteria (GAC) for Human Health Risk Assessment – CL:AIRE December 2009

In light of the publication of SR2 and SR3 the Environment Agency published SGVs for Benzene, Toluene, Ethylbenzene, Xylene, Selenium, Mercury, Arsenic, Cadmium, Phenol, Nickel and Sum of PCDDs, PCDFs and dioxin-like PCBs for the following standard land use scenarios assuming a Sandy Loam soil and Soil Organic Matter (SOM) content of 6%:

- Residential
- Allotments
- Commercial

CL:AIRE in association with The Environmental Industries Commission (EIC) and Association of Geotechnical and Geo-environmental Specialists (AGS) published a set of Generic Assessment Criteria in 2009 for previously unpublished contaminants which are intended to complement the SGVs derived by the Environment Agency. The GACs have been derived predominantly for VOCs and SVOCs using CLEA v1.06 for a number of different Soil Organic Matter contents (1%, 2.5% and 6%).

All soil samples have been screened against generic values derived for a commercial end use.

5.3 Discussion of the Soil Chemical Results

5.3.1 Contaminants exceeding SGV or GAC

All contaminants recorded concentrations below their respective screening values (Appendix B).

5.3.2 Asbestos Containing Material (ACM)

No samples recorded the presence of ACM however Asbestos fibres were detected within samples during the Preliminary Investigation.

6 GROUNDWATER AND SURFACE WATER CONTAMINATION

6.1 Introduction

Groundwater and surface water analytical results used as part of the site assessment are presented in Appendix C (Rounds 1-4) and Appendix D (Rounds 5-6).

Groundwater and surface water results have been screened against the following:

- European Communities Environmental Objectives (Groundwater) Regulations 2010 and (Amendment) Regulations 2016 - Overall Threshold Value Ranges (GTV);
- European Communities Environmental Objectives (Surface Waters) Regulations 2009 and (Amendment) Regulations 2015 and 2019 – Environmental Quality Standards for Inland Surface Waters (EQS);
- EPA Towards Setting Guideline Values for the Protection of Groundwater in Ireland 2003 – Interim Guideline Values (IGV);
- European Union (Drinking Water) Regulations 2014 – Parametric values (DWR); and
- Guidance on the Authorisation of Discharges to Groundwater 2011 (Version 1) - EPA Hazardous Substances Minimum Reporting Values (MRV).

Groundwater concentrations were initially compared to the GTV screening values. Surface water concentrations were screened against the EQS for inland surface waters in the first instance. Where available, the Maximum Allowable Concentration (MAC) EQS was used rather than the Annual Average (AA) EQS. In the absence of a GTV or EQS screening value for a parameter, results were screened against IGVs for comparison purposes only. It is noted that IGVs are guideline values only which were developed in 2003 and are superseded by the GTVs. The DWR screening values provide a very conservative risk assessment as groundwater is not utilised for drinking water in the area of the site and are not suitable for assessing the potential impacts to environmental receptors such as surface waters. The DWR values are included within the screening tables for comparison purposes only.

Groundwater and surface water concentrations were also compared to the minimum reporting values (MRVs) outlined in Appendix C of the EPA guidance document ‘Guidance on the Authorisation of Discharges to Groundwater’ (Version 1, 2011). The EPA produced a list of concentrations considered as appropriate MRVs for hazardous substances where standards do not yet exist. An MRV is the lowest concentration of a substance that can be determined with a known degree of confidence using commonly available laboratory analytical methods, but it it’s not necessary equivalent to the limit of detection. The MRVs are based on a set of values published by the Environment Agency H1 Technical Annex to Annex J: Hydrogeological Risk Assessments for Landfills and the Derivation of Groundwater Control Levels and Compliance Limits (2010).

6.2 Groundwater & Surface Water Sampling

As discussed in Section 3.9, two rounds of groundwater sampling from all six boreholes were undertaken in November 2012. As per the guidance contained within the EPA Landfill Monitoring Guidelines 2003, the first round was analysed for a full suite of parameters whilst the second round was analysed for an indicator suite of parameters (Table C2 of the Landfill Monitoring Guidelines). An initial screen of the laboratory results indicated the presence of elevated levels of hydrocarbons and PAHs in a number of groundwater samples. Therefore a third round of groundwater monitoring including these contaminants of concern was carried out in January 2013 with a follow up fourth round in November 2013.

A further two rounds of groundwater were undertaken in October 2020 to confirm the findings of the 2012 and 2013 monitoring. Deep boreholes BH01, BH02 and BH03 and shallow borehole BH06 were monitored in Rounds 5-6. Unfortunately, BH04 and BH05 could not be located and no samples were able to be taken from these boreholes.

Three surface water samples (one upstream SW01 and two downstream SW02 and SW03) were also taken from the adjacent stream during all six monitoring rounds.

The groundwater and surface water samples were sent to ALS Life Sciences Ltd for laboratory analysis. The groundwater and surface water samples were analysed for the suite of parameters outlined in Table 6.1.

The laboratory analytical results for monitoring Rounds 1-4 are contained in Appendix C and Rounds 5-6 in Appendix D. Screened groundwater and surface water results are presented in Appendix E.

Table 6.1 Summary of Laboratory Analysis

Groundwater Analysis Suite	Surface Water Analysis Suite
• Heavy Metals • Sulphate, Sulphide, pH, Ammoniacal Nitrogen, Electrical Conductivity, Chloride, Total Alkalinity, Total Organic Carbon, Total Oxidised Nitrogen, Total Nitrogen, Sodium, Potassium, Calcium, BOD, COD, Nitrite, Nitrate, Magnesium , Manganese, Fluoride, Phosphate, Cyanide, Suspended Solids • Organic matter content • Petroleum Hydrocarbons • BTEX • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Polycyclic Aromatic Hydrocarbons (PAH) • Polycyclic Biphenyls (PCBs) • Organochlorine Pesticides • Herbicides • Phenoxy Acid herbicides • Organophosphorous Pesticides	• Heavy Metals • Sulphate, Sulphide, pH, Ammoniacal Nitrogen, Electrical Conductivity, Chloride, Total Alkalinity, Total Organic Carbon, Total Oxidised Nitrogen, Total Nitrogen, Sodium, Potassium, Calcium, BOD, COD, Nitrite, Nitrate, Magnesium , Manganese, Fluoride, Phosphate, Cyanide, Suspended Solids • Organic matter content • Petroleum Hydrocarbons • BTEX • Volatile Organic Compounds (VOCs) and Semi Volatile Organic Compounds (SVOCs) • Polycyclic Aromatic Hydrocarbons (PAH) • Polycyclic Biphenyls (PCBs) • Organochlorine Pesticides • Herbicides • Phenoxy Acid herbicides Organophosphorous Pesticides

6.3 Groundwater & Surface Water Chemical Results

Round 1 – 6th November 2012

Parameters analysed in groundwater and surface water samples during monitoring Round 1 that exceeded their respective screening values are outlined in Table 6.2.

Table 6.2 Round 1 (6th November 2012) Exceedances

Contaminant	Screening Value[1]	Exceeding Concentrations	Locations Exceeding
Ammoniacal Nitrogen as N	0.175 mg/l (GTV)	0.272 mg/l 1.51 mg/l 0.58 mg/l 2.99 mg/l	BH01 BH04 BH05 BH06
Fluoride	0.5 mg/l AA (EQS)	0.563 mg/l	SW01
Arsenic	10 µg/l (IGV)	17.1 µg/l	BH06
Manganese	50 µg/l (IGV)	3,090 µg/l 1,310 µg/l 1,610 µg/l 1,570 µg/l 1,880 µg/l 869 µg/l 86.3 µg/l 65.8 µg/l	BH01 BH02 BH03 BH04 BH05 BH06 SW02 SW03
Potassium	5 mg/l (IGV)	6.78 mg/l	BH06
Iron	0.2 mg/l (IGV)	1.96 mg/l 1.91 mg/l 1.1 mg/l 0.464 mg/l 0.371 mg/l 1.27 mg/l 0.477 mg/l 0.885 mg/l	BH02 BH03 BH04 BH05 BH06 SW01 SW02 SW03
Zinc	75 µg/l (GTV)	101 µg/l	BH05
Total Aliphatics & Aromatics >C5-35	7.5 µg/l (GTV)	23,600 µg/l 767 µg/l 5,450 µg/l	BH04 BH05 BH06

[1] AA = Annual Mean, MAC = Maximum Allowable Concentration

Contaminant	Screening Value[1]	Exceeding Concentrations	Locations Exceeding
Naphthalene	∑PAH6[2] 0.075 µg/l (GTV)	4.55 µg/l	BH04
Anthracene	∑PAH[2] 0.075 µg/l (GTV)	1.52 µg/l 0.0194 µg/l	BH04 BH05
Benzo(b)fluoranthene	∑PAH[2] 0.075 µg/l (GTV)	2.05 µg/l 0.0692 µg/l	BH04 BH05
Benzo(k)fluoranthene	∑PAH[2] 0.075 µg/l (GTV)	1.03 µg/l 0.0675 µg/l	BH04 BH05
Benzo(g,h,i)perylene	∑PAH[2] 0.075 µg/l (GTV)	10.6 µg/l 0.13 µg/l	BH04 BH05
Indeno(1,2,3-cd)pyrene	∑PAH[2] 0.075 µg/l (GTV)	1.49 µg/l 0.0556 µg/l	BH04 BH05
Benzo(a)pyrene	0.0075 µg/l (GTV)	2.68 µg/l 0.0884 µg/l	BH04 BH05
Fluoranthene	1 µg/l (IGV)	1.88 µg/l	BH04
Total PAH	∑PAH[2] 0.075 µg/l (GTV)	42.8 µg/l 0.92 µg/l	BH04 BH05
m,p-Xylene	10 µg/l (IGV) 3 µg/l (MRV)	40.8 µg/l	BH04
o-Xylene	3 µg/l (MRV)	14.9 µg/l	BH04
beta-Hexachlorocyclohexane (HCH / Lindane)	0.005 µg/l (MRV)	0.0698 µg/l	BH04

European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)	European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended (EQS)	EPA Interim Guideline Values (IGV)	EPA Hazardous Substances Minimum Reporting Value (MRV)

Round 2 – 13th November 2012

Parameters analysed in groundwater and surface water samples during monitoring Round 2 that exceeded their respective screening values are outlined in Table 6.3. TPH, PCBs, VOCs, SVOCs, pesticides and herbicides were not analysed during Round 2.

[2] GTV for Sum of Total Polycyclic Aromatic Hydrocarbons including anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene and naphthalene.

Table 6.3 Round 2 (13th November 2012) Exceedances

Contaminant	Screening Value[3]	Exceeding Concentrations	Locations Exceeding
Ammoniacal Nitrogen as N	0.175 mg/l (GTV)	0.221 mg/l 0.331 mg/l 0.441 mg/l 0.872 mg/l	BH03 BH04 BH05 BH06
	0.14 mg/l MAC (EQS Good Status)	0.2 mg/l	SW02
Fluoride	0.5 mg/l AA (EQS)	0.583 mg/l	SW01
Orthophosphate	0.03 mg/l (IGV)	0.062 mg/l	SW02
Cadmium	0.1 µg/l (MRV)	0.12 µg/l	BH04
Manganese	50 µg/l (IGV)	3,200 µg/l 1,310 µg/l 1,830 µg/l 211 µg/l 1,280 µg/l 508 µg/l	BH01 BH02 BH03 BH04 BH05 BH06
Zinc	75 µg/l (GTV)	95.1 µg/l	BH04
Iron	0.2 mg/l (IGV)	0.665 mg/l 0.289 mg/l 0.342 mg/l 1.21 mg/l 0.495 mg/l 0.828 mg/l	BH04 BH05 BH06 SW01 SW02 SW03
Anthracene	∑PAH[4] 0.075 µg/l (GTV)	0.0156 µg/l	BH05
Benzo(b)fluoranthene	∑PAH[4] 0.075 µg/l (GTV)	0.0272 µg/l 0.0576 µg/l	BH04 BH05
Benzo(k)fluoranthene	∑PAH[4] 0.075 µg/l (GTV)	0.0563 µg/l	BH05
Benzo(g,h,i)perylene	∑PAH[4] 0.075 µg/l (GTV)	0.117 µg/l 0.0993 µg/l	BH04 BH05
Indeno(1,2,3-cd)pyrene	∑PAH[4] 0.075 µg/l (GTV)	0.0165 µg/l 0.04 µg/l	BH04 BH05
Benzo(a)pyrene	0.0075 µg/l (GTV)	0.0391 µg/l 0.0699 µg/l	BH04 BH05

[3] AA = Annual Mean, MAC = Maximum Allowable Concentration

[4] GTV for Sum of Total Polycyclic Aromatic Hydrocarbons including anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene and naphthalene.

Contaminant	Screening Value[3]	Exceeding Concentrations	Locations Exceeding
Total PAH	∑PAH[4] 0.075 µg/l (GTV)	0.409 µg/l 0.766 µg/l	BH04 BH05

European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)	European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended (EQS)	EPA Interim Guideline Values (IGV)	EPA Hazardous Substances Minimum Reporting Value (MRV)

Round 3 – 9th January 2013

Parameters analysed in groundwater and surface water samples during monitoring Round 3 that exceeded their respective screening values are outlined in Table 6.4. PCBs, VOCs, SVOCs, pesticides and herbicides were not analysed during Round 3.

Table 6.4 Round 3 (9th January 2013) Exceedances

Contaminant	Screening Value[5]	Exceeding Concentrations	Locations Exceeding
Ammoniacal Nitrogen as N	0.175 mg/l (GTV)	0.222 mg/l 0.313 mg/l 0.309 mg/l 0.631 mg/l 0.751 mg/l	BH01 BH03 BH04 BH05 BH06
	0.14 mg/l MAC (EQS Good Status)	0.202 mg/l	SW03
Fluoride	0.5 mg/l AA (EQS)	0.631 mg/l	SW03
Orthophosphate	0.03 mg/l (IGV)	0.108 mg/l	SW02
Mercury	0.01 µg/l (MRV)	0.0103 µg/l	BH04
Cadmium	0.1 µg/l (MRV)	0.133 µg/l	BH05
Manganese	50 µg/l (IGV)	3,650 µg/l 1,410 µg/l 1,670 µg/l 1,290 µg/l 1,470 µg/l 296 µg/l 75.9 µg/l	BH01 BH02 BH03 BH04 BH05 BH06 SW02
Zinc	75 µg/l (GTV)	76.4 µg/l	BH05

[5] AA = Annual Mean, MAC = Maximum Allowable Concentration

Contaminant	Screening Value[5]	Exceeding Concentrations	Locations Exceeding
Iron	0.2 mg/l (IGV)	1.86 mg/l 1.32 mg/l 3.35 mg/l 0.228 mg/l 1.45 mg/l 0.465 mg/l 0.975 mg/l	BH02 BH04 BH05 BH06 SW01 SW02 SW03
Total Aliphatics & Aromatics >C5-35	7.5 µg/l (GTV)	4,050 µg/l 5,580 µg/l 179 µg/l	BH04 BH05 BH06
Anthracene	∑PAH[6] 0.075 µg/l (GTV)	0.0225 µg/l 0.488 µg/l	BH04 BH05
Benzo(b)fluoranthene	∑PAH[6] 0.075 µg/l (GTV)	0.256 µg/l 2.37 µg/l	BH04 BH05
Benzo(k)fluoranthene	∑PAH[6] 0.075 µg/l (GTV)	0.119 µg/l 1.87 µg/l	BH04 BH05
Benzo(g,h,i)perylene	∑PAH[6] 0.075 µg/l (GTV)	1.59 µg/l 2.96 µg/l	BH04 BH05
Indeno(1,2,3-cd)pyrene	∑PAH[6] 0.075 µg/l (GTV)	0.21 µg/l 1.16 µg/l	BH04 BH05
Benzo(a)pyrene	0.0075 µg/l (GTV)	0.344 µg/l 2.39 µg/l	BH04 BH05
Fluoranthene	1 µg/l (IGV)	1.75 µg/l	BH05
Total PAH	∑PAH[6] 0.075 µg/l (GTV)	3.94 µg/l 23.1 µg/l	BH04 BH05
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)	**European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended (EQS)**	**EPA Interim Guideline Values (IGV)**	**EPA Hazardous Substances Minimum Reporting Value (MRV)**

Round 4 – 19th November 2013

Parameters analysed in groundwater and surface water samples during monitoring Round 4 that exceeded their respective screening values are outlined in Table 6.5.

[6] GTV for Sum of Total Polycyclic Aromatic Hydrocarbons including anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene and naphthalene.

Table 6.5 Round 4 (19th November 2013) Exceedances

Contaminant	Screening Value[7]	Exceeding Concentrations	Locations Exceeding
Ammoniacal Nitrogen as N	0.175 mg/l (GTV)	0.639 mg/l 0.641 mg/l	BH04 BH06
Orthophosphate	0.03 mg/l (IGV)	0.058 mg/l	SW02
Mercury	0.01 µg/l (MRV)	0.0118 µg/l 0.0207 µg/l 0.0208 µg/l	BH03 BH05 SW02
Cadmium	0.1 µg/l (MRV)	0.336 µg/l	BH01
Manganese	50 µg/l (IGV)	2,510 µg/l 1,740 µg/l 1,860 µg/l 2,080 µg/l 1,620 µg/l 96.7 µg/l 92.4 µg/l	BH01 BH02 BH03 BH04 BH05 BH06 SW02
Zinc	75 µg/l (GTV)	82.6 µg/l	BH05
Iron	0.2 mg/l (IGV)	16.8 mg/l 14 mg/l 13.2 mg/l 14 mg/l 0.401 mg/l 1.03 mg/l 0.513 mg/l 0.554 mg/l	BH02 BH03 BH04 BH05 BH06 SW01 SW02 SW03
Total Aliphatics & Aromatics >C5-35	7.5 µg/l (GTV)	1,570 µg/l 1,210 µg/l	BH04 BH05
Benzo(b)fluoranthene	∑PAH[8] 0.075 µg/l (GTV)	0.0467 µg/l	BH04
Benzo(g,h,i)perylene	∑PAH[8] 0.075 µg/l (GTV)	0.332 µg/l 0.206 µg/l	BH04 BH05
Indeno(1,2,3-cd)pyrene	∑PAH[8] 0.075 µg/l (GTV)	0.0291 µg/l	BH04
Benzo(a)pyrene	0.0075 µg/l (GTV)	0.067 µg/l 0.157 µg/l	BH04 BH05
Total PAH	∑PAH[8] 0.075 µg/l (GTV)	0.743 µg/l	BH04

[7] AA = Annual Mean, MAC = Maximum Allowable Concentration

[8] GTV for Sum of Total Polycyclic Aromatic Hydrocarbons including anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene and naphthalene.

Contaminant	Screening Value[7]	Exceeding Concentrations	Locations Exceeding
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)	European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended (EQS)	EPA Interim Guideline Values (IGV)	EPA Hazardous Substances Minimum Reporting Value (MRV)

Round 5 – 6th October 2020

Parameters analysed in groundwater and surface water samples during monitoring Round 5 that exceeded their respective screening values are outlined in Table 6.6. PCBs, pesticides and herbicides were not analysed during Round 5.

Table 6.6 Round 5 (6th October 2020) Exceedances

Contaminant	Screening Value[9]	Exceeding Concentrations	Locations Exceeding
Ammoniacal Nitrogen as N	0.175 mg/l (GTV)	0.773 mg/l	BH01
Fluoride	1 mg/l (IGV)	2.18 mg/l 1.93 mg/l	BH02 BH03
Cadmium	0.1 µg/l (MRV)	0.165 µg/l	BH01
Manganese	50 µg/l (IGV)	1,380 µg/l 3,010 µg/l 2,840 µg/l 122 µg/l 138 µg/l 52.4 µg/l	BH01 BH02 BH03 BH06 SW02 SW03
Iron	0.2 mg/l (IGV)	1.19 mg/l 20.3 mg/l 24.6 mg/l 1.27 mg/l 0.779 mg/l 1.1 mg/l	BH01 BH02 BH03 SW01 SW02 SW03
Total Aliphatics & Aromatics >C5-35	7.5 µg/l (GTV)	97 µg/l	BH06
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)	**European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended (EQS)**	**EPA Interim Guideline Values (IGV)**	**EPA Hazardous Substances Minimum Reporting Value (MRV)**

[9] AA = Annual Mean, MAC = Maximum Allowable Concentration

Round 6 – 20th October 2020

Parameters analysed in groundwater and surface water samples during monitoring Round 6 that exceeded their respective screening values are outlined in Table 6.7. PCBs, pesticides and herbicides were not analysed during Round 6.

Table 6.7 Round 6 (20th October 2020) Exceedances

Contaminant	Screening Value[10]	Exceeding Concentrations	Locations Exceeding
Aluminium	150 µg/l (GTV)	353 µg/l	BH01
Cadmium	0.1 µg/l (MRV)	0.214 µg/l	BH01
Manganese	50 µg/l (IGV)	123 µg/l 250 µg/l 654 µg/l 160 µg/l 57.2 µg/l	BH01 BH02 BH03 SW02 SW03
Zinc	75 µg/l (GTV)	139 µg/l 5,190 µg/l	BH02 BH06
Iron	0.2 mg/l (IGV)	0.301 mg/l 0.779 mg/l 1.36 mg/l 0.848 mg/l 1.21 mg/l	BH01 BH03 SW01 SW02 SW03
Naphthalene	∑PAH6[11] 0.075 µg/l (GTV)	0.134 µg/l	BH06
Benzo(g,h,i-cd)perylene	0.0082 µg/l MAC (EQS)	0.0303 µg/l	SW03
Total PAH	∑PAH[11] 0.075 µg/l (GTV)	0.163 µg/l	BH06

European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)	European Communities Environmental Objectives (Surface Water) Regulations 2009 as amended (EQS)	EPA Interim Guideline Values (IGV)	EPA Hazardous Substances Minimum Reporting Value (MRV)

[10] AA = Annual Mean, MAC = Maximum Allowable Concentration

[11] GTV for Sum of Total Polycyclic Aromatic Hydrocarbons including anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene, indeno(1,2,3-cd)pyrene and naphthalene.

6.4 Significance of Water Chemical Results

6.4.1 Monitoring Rounds 1-4 (2012 & 2013)

This section will summarise the parameters that exceeded the screening values in groundwater and surface water results during monitoring Round 1 (6th November 2012), Round 2 (13th November 2012), Round 3 (9th January 2013) and Round 4 (19th November 2013).

Ammoniacal Nitrogen

Elevated concentrations of Ammoniacal Nitrogen were detected within all shallow borehole samples (BH04-BH06) throughout all four monitoring rounds indicating that the shallow groundwater has been impacted by leachate run-off from the waste body. Recorded concentrations of Ammoniacal Nitrogen were highest in the first sampling round but generally remained stable during the second, third and fourth rounds.

Deep boreholes BH01 upstream and BH03 downstream also recorded elevated concentrations of Ammoniacal Nitrogen at times with the highest concentrations of 0.313 mg/l recorded in the downstream borehole BH03. This may indicate a slight impact upon the bedrock aquifer from leachate as elevated levels were recorded during four rounds. However, these concentrations may also be naturally occurring due to the presence of peat with its high organic content. Concentrations in deep borehole BH02 were below the GTV screening value.

In Round 2, an elevated concentration of Ammoniacal Nitrogen was recorded at surface water location SW02 which was taken from the drainage ditch immediately downstream of the site, however the concentration further downstream at SW03 was below the limit of detection. In Round 3, downstream surface water location SW03 recorded a value of 0.202 mg/l however elevated levels were not recorded in the sample from SW02, which was taken from the drainage ditch immediately downstream of the site. It is noted however that the laboratory limit of detection (<0.2 mg/l) for Ammoniacal Nitrogen is above the GTV screening value of 0.175 mg/l and EQS screening value of 0.14 mg/l (good status).

Iron & Manganese

Elevated levels of Iron and Manganese were recorded within the majority of samples throughout the four monitoring rounds. Given that elevated levels were recorded in both upstream and downstream sampling points, it is likely that the elevated levels are naturally occurring.

Hydrocarbons & PAHs

Elevated levels of Hydrocarbons and PAHs were detected in the shallow borehole samples in Rounds 1-4 which are likely to be a result of leaching from the waste body. No elevated levels of Hydrocarbons or PAHs were recorded within the samples from the deep boreholes or the surface water samples which indicates that the contamination is confined to the shallow groundwater beneath the waste body. The hydrocarbon bands where the highest levels were recorded were predominantly the heavy aliphatic and aromatic fractions C21-C35. These heavy fractions are non-volatile and are less mobile than lighter hydrocarbon fractions.

Other Parameters

Exceedances above the screening values were recorded in shallow groundwater boreholes for the following parameters:

- Arsenic concentration exceeded the GTV (7.5 ug/l) at BH06 (17.1 ug/l) in Round 1.
- Zinc concentrations exceeded the GTV (75 ug/l) at BH04 and BH05 at times in Rounds 1-4. BH04 and BH05 are screened across waste.
- Cadmium concentrations slightly exceeded the MRV (0.1 ug/l) at BH04 (0.12 ug/) in Round 2 and BH05 (0.133 ug/) in Round 3.
- Mercury concentrations exceeded the MRV (0.01 ug/l) at BH04 (0.0103 ug/) in Round 3 and at BH05 (0.0207 ug/l) in Round 4.
- Potassium concentration exceeded the IGV (5 mg/l) at BH06 (6.78 mg/l) in Round 1.
- m,p-Xylene concentration exceeded the IGV (10 ug/l) and MRV (3 ug/l) at BH04 (40.8 ug/l) in Round 1.
- o-Xylene concentration exceeded the MRV (3 ug/l) at BH04 (14.9 ug/l) in Round 1.
- Beta-Hexachlorocyclohexane (HCH/Lindane) concentration exceeded the MRV (0.005 ug/l) at BH04 (0.0698 ug/l) in Round 1.

Exceedances above the screening values were recorded in deep groundwater boreholes for the following parameters:

- Cadmium concentration exceeded the MRV (0.1 ug/l) at upstream borehole BH01 (0.336 ug/) in Round 4.
- Mercury concentration exceeded the MRV (0.01 ug/l) at BH03 (0.0118 ug/) in Round 4.

Exceedances above the screening values were recorded at surface water locations for the following parameters:

- Orthophosphate concentrations exceeded the EQS (0.075 mg/l good status) or IGV (0.03 mg/l) at SW02 which is located immediately downstream of the site in Rounds 2-4 (0.058-0.108 mg/l).
- Fluoride concentrations exceeded the EQS (0.5 mg/l) at upstream surface water location SW01 in Rounds 1-3 (0.563-0.631 mg/l).

6.4.2 Monitoring Rounds 5-6 (2020)

This section will summarise the parameters that exceeded the screening values in groundwater and surface water results during monitoring Round 5 (6th October 2020) and Round 6 (20th October 2020).

Ammoniacal Nitrogen

Elevated levels of Ammoniacal Nitrogen recorded during monitoring Rounds 1-4 at shallow and deep groundwater boreholes and surface water locations have all reduced below the GTV and EQS screening values during monitoring Rounds 5 and 6 except for deep borehole BH01 (0.773 mg/l) in Round 4. BH01 is located upgradient of the site.

Iron & Manganese

Similarly to monitoring Rounds 1-4, elevated levels of Iron and Manganese were recorded within the majority of samples throughout Rounds 5 and 6 which are likely attributable to natural background levels.

Hydrocarbons & PAHs

Elevated hydrocarbons and PAHs concentrations detected during monitoring Rounds 1-4 have reduced in monitoring Rounds 5 and 6. A PAH concentration above the GTV screening value was only recorded in groundwater on one occasion at shallow borehole BH06 during Round 6. An elevated TPH concentration was recorded in BH06 during Round 5. The source of hydrocarbon and PAH in BH06 is likely to be as a result of leaching from the waste body. The hydrocarbon bands where the highest levels were recorded were predominantly the heavy aliphatic and aromatic fractions C21-C35 which are non-volatile and are less mobile than lighter hydrocarbon fractions.

Other Parameters

- Zinc concentrations exceeded the GTV (75 ug/l) at shallow borehole BH06 (5,190 ug/l) and deep borehole BH02 (139 ug/l) in Round 6.
- Aluminium concentration exceeded the GTV (150 ug/l) at deep borehole BH01 (353 ug/l) in Round 6.
- Fluoride concentrations exceeded the IGV (1 mg/l) at deep groundwater boreholes BH02 (2.18 mg/l) and BH03 (1.93 mg/l) in Round 5.
- Cadmium concentrations exceeded the MRV (0.1 ug/l) at upstream deep borehole BH01 in Round 5 (0.165 ug/l) and Round 6 (0.214 ug/l).

7 GROUND BORNE GAS SURVEY

7.1 Introduction

Ground borne gas is produced as a result of the decomposition of organic materials. The principal components of ground borne gas are methane and carbon dioxide, but other gases such as hydrogen sulphide and carbon monoxide can also be present. Ground borne gas can present a hazard to end users of a site and can enter buildings, thus presenting a toxic, asphyxiation or explosion hazard.

Guidance on gas risk assessment and the design of gas protection measures is set-out in the following documentation:

- The Local Authority Guide to Ground Gas (Chartered Institute of Environmental Health 2008),and
- CIRIA Report C665 (2007)[12].

7.2 Gas Survey Results

The maximum recorded gas volumes (methane and carbon dioxide) and flow rate results recorded at each borehole location are summarised in Appendix F – Table 1. The maximum recorded concentrations (volume gas/volume air) in each borehole were recorded as 5.80 vol/vol% for carbon dioxide. No methane concentrations were recorded in any of the locations during any of the four monitoring rounds, however for the purposes of the risk assessment a value of 0.1 vol/vol% has been adopted.

The gas concentration and flow rate was used to calculate the gas screening value (GSV = Gas Concentration % x Borehole Flow Rate) for each borehole, which was calculated as 0.0001 to 0.0004 l/hour for methane, and 0.0001 to 0.0168 l/hour for carbon dioxide.

7.3 Gas Risk Assessment

Methane and carbon dioxide are classified as hazardous gases. Table 7.1 summarises the toxic and explosive effects and specified exposure or trigger limits for these gases.

Table 7.1 Significant Gas Concentrations in Air[13]

Gas	Concentration	Exposure Limits
Methane	<1%	Building Regulations Limit
	0.25%	Ventilation required in tunnels and other confined spaces
	5%	Potentially explosive when mixed with air (LEL)

[12] CIRIA C665 Assessing risks posed by hazardous ground gases to buildings (2007).

[13] CIRIA Report 152 (1995) Risk Assessment for Methane and other Gases from the Ground.

Gas	Concentration	Exposure Limits
	30%	Potentially explosive when mixed with air (UEL), Asphyxiation
Carbon Dioxide	0.5%	8 hour exposure limit (OEL)
	1.5%	10 min exposure limit (OEL) and Building Regulations Limit
	>3%	Breathing difficulties
	>5%	Asphyxiation

Guidance on gas risk assessment and the design of gas protection measures is set-out in the following documentation:

- DOE Waste Management Paper 27,
- UK Building Regulations (1991),
- CARD Geotechnics Research Report (1999),
- CIRIA Report 149 (1995),
- NHBC and RSK Group 10627-R01 (2007),
- CIRIA Report C665 (2007)14, and
- Local Authority Guide to Ground Gas (2008).

CIRIA report C665 represents the current best practice guidance. It outlines a holistic approach to gas risk assessment, which takes account of the following factors:

- Nature of source and migration pathway
- Borehole flow rate and surface emission rate
- Frequency and distribution of elevated gas concentrations
- Nature of the proposed development
- Confidence and reliability of results

The most important aspect relating to the classification of a sites gas regime is governed by the concentration of the gas and how quickly it is coming out of the ground. This is reflected by the limiting volume flow rate of the gas, which is calculated as the concentration gas (expressed as a volumetric fraction) multiplied by the borehole flow rate. The limiting borehole gas volume flow has been renamed as the gas screening value (GSV) in CIRIA C665. This GSV is applied to six characteristic situations, the threshold criteria for which are listed in Appendix F - Table 2.

[14] CIRIA C665 Assessing risks posed by hazardous ground gases to buildings (2007)

7.4 Discussion of the Gas Results

The monitoring results indicate that the gas regime of the site is classified as Characteristic Situation 2 in accordance with CIRIA C665. Based upon the monitoring data and outcome of the generic gas risk assessment, a detailed gas QRA was not considered necessary as the risk to nearby residential receptors is deemed to be low.

8 RISK ASSESSMENT AND REFINEMENT OF CONCEPTUAL SITE MODEL

Using the methodology outlined in previous sections, the laboratory analytical results were used to carry out a generic quantitative risk assessment (GQRA).

8.1 Overview of Sources, Pathways and Receptors

8.1.1 Sources – Ground Contamination

All soil samples returned contaminant concentrations below their respective generic screening values for a commercial end use. The elevated levels of PCBs and ACM encountered during the preliminary investigation appear to have been isolated occurrences and are not considered to be sources of contamination.

8.1.2 Sources – Groundwater Contamination

The primary sources of contamination at the site are:

- Shallow groundwater in direct contact with waste (Ammoniacal Nitrogen, TPH and PAHs contamination)

Analysis of deep groundwater and surface water samples indicates that the TPH and PAH contamination is confined to the shallow groundwater beneath the waste body. The heavy hydrocarbon fractions encountered are not considered to be very mobile which limits the potential for migration. Whilst there appears to be a slight impact from Ammoniacal Nitrogen on the deep groundwater downstream of the waste, elevated levels of Ammoniacal Nitrogen were also detected within the upstream borehole (BH01) on three monitoring occasions. These concentrations (<0.2 – 0.773 mg/l) in deep groundwater may be naturally occurring due to the presence of peat with its high organic content.

In relation to surface waters, it does not appear that any downstream samples have been impacted. However it is noted that an elevated level of Ammoniacal Nitrogen was detected within samples from SW02 and SW3 in 2012 and 2013 but elevated concentrations were not recorded for the 2020 monitoring.

8.1.3 Sources – Ground Borne Gases

The monitoring of soil borne gases indicated that Methane levels were generally low whilst marginally elevated levels of Carbon Dioxide were detected.

8.1.4 Pathways

- Pathways associated with impacts to human health through dermal contact, ingestion and dust inhalation are not present on the site as it is currently in agricultural use.
- Groundwater is not abstracted for potable use in the immediate area and therefore the pathway for groundwater contamination to impact human health is minimal.

- A pathway exists for rainfall/precipitation to infiltrate from the surface, through the waste and leach into the shallow groundwater which can migrate horizontally to surface waters or vertically to the underlying bedrock aquifer.
- A pathway may exist for contaminated shallow groundwater to migrate vertically into the underlying aquifer (the aquifer is classified as poorly productive). The waste material is underlain by Silt and Gravel which is unlikely to act as an aquitard. The laboratory analysis however indicates that the deep groundwater has not been impacted by significant contamination (Hydrocarbons and PAHs) and the elevated levels of Ammoniacal Nitrogen may be naturally occurring.
- It is possible that the shallow groundwater is in hydraulic continuity with the adjacent drainage ditch. An analysis of conductivity measurements reveals a similar level between the shallow groundwater and the drainage ditch however it is likely that this ditch is fed predominantly from surface water run-off and drainage. This was evident on the day of the site investigation in 2012 when heavy rainfall resulted in run-off upstream of the site flowing down along the adjacent access roadway and entering the drainage ditch. An analysis of conductivity measurements between the shallow groundwater and the adjacent stream reveal much lower and different conductivity levels within the stream indicating that the shallow groundwater is not in hydraulic continuity with the stream.
- The stream which runs to the east of the site merges with the Glen River approximately 250m north of the site and therefore any impact to the quality of the stream may potentially impact on the River Glen. The drainage ditch immediately downstream of the site drains into the stream at the R263 road.
- In relation to gas migration pathways, any gas produced may migrate horizontally. Horizontal migration however will be limited as there are no known services beneath the site and any gas generated will escape to the atmosphere as the waste body is not capped.

8.1.5 Receptors

Current Site-Users

The site is in agricultural use (sheep grazing) and therefore human receptors (apart from occasional visits from the landowner/farmer) are not permanently present.

Off-Site Human Health Receptors

One residential property is located immediately north of the site. The main risk posed to this receptor is from landfill gas migration. However as outlined above, the potential for horizontal migration is limited due to an absence of pathways (underground services). In addition, the receptor is located 56m from the boundary of the waste body.

Shallow Perched Groundwater

Shallow groundwater has been impacted by contamination from the waste material.

Aquifer

The site is underlain by a poorly productive (Pl) aquifer which has not been significantly impacted by run-off from the waste body.

Glen River

The Glen River is a potential receptor for contamination from the site due to the adjacent stream. However as outlined above, the impacted shallow groundwater beneath the waste is not in continuity with the adjacent stream and therefore in turn with the Glen River.

8.2 Risk Assessment and Revised Conceptual Model

The revised conceptual site model is illustrated in Table 8.4 and Tables 8.1-8.3 summarise the contaminant linkages on site. The revised conceptual site model is also shown in Drawing IBR1266/100 in Appendix G. A plan view conceptual site model is also provided in Appendix G.

Table 8.1 Diagram for Leachate Migration through Groundwater Pathway

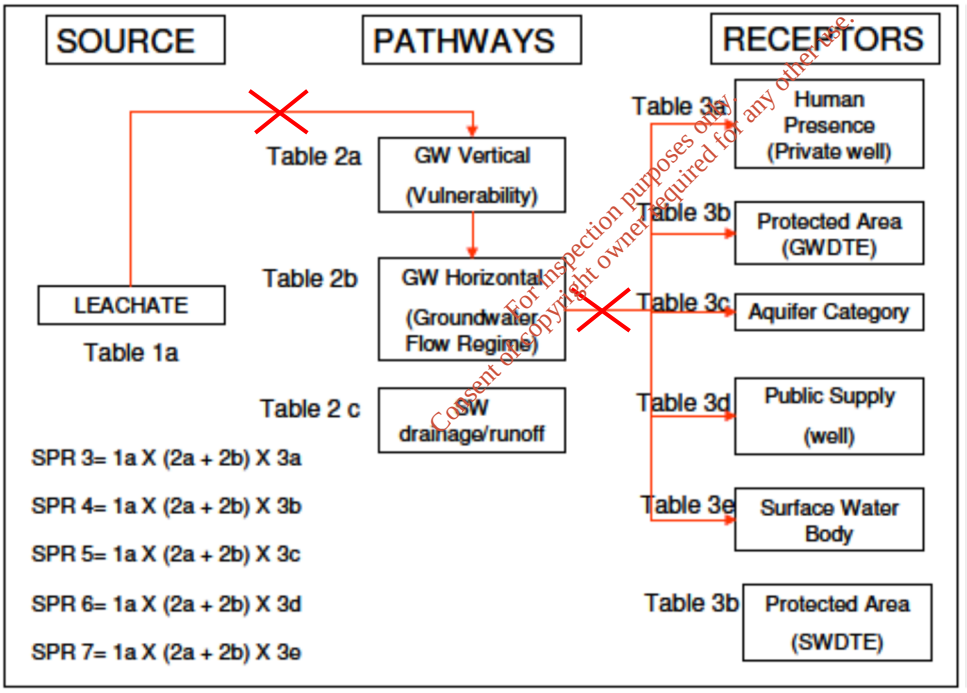


Table 8.2 Diagram for Leachate Migration through Surface Water Pathway

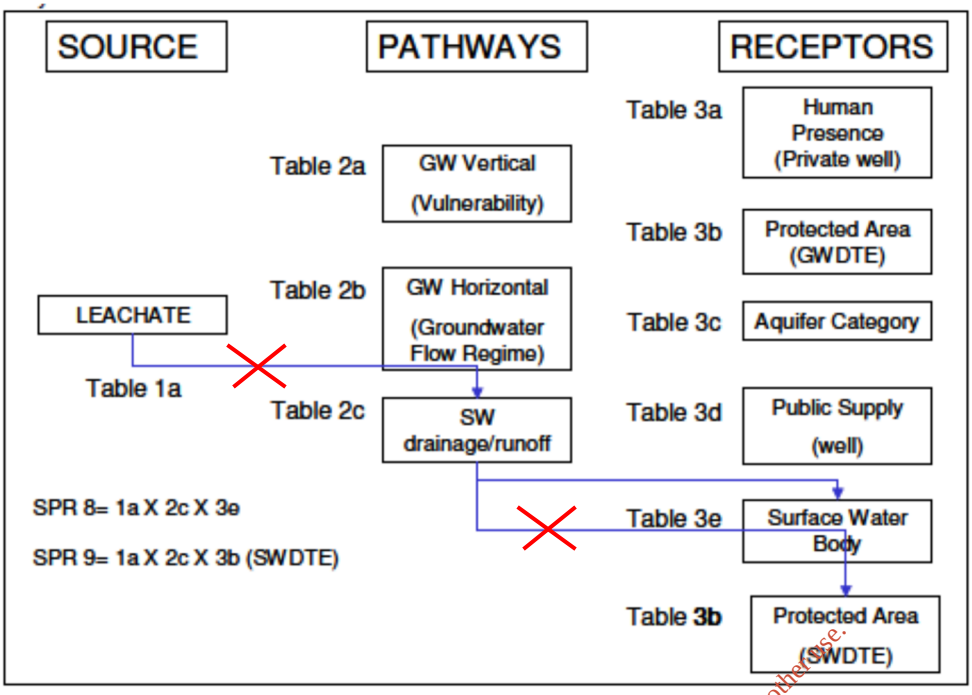


Table 8.3 Diagram for Landfill Gas Migration Pathways

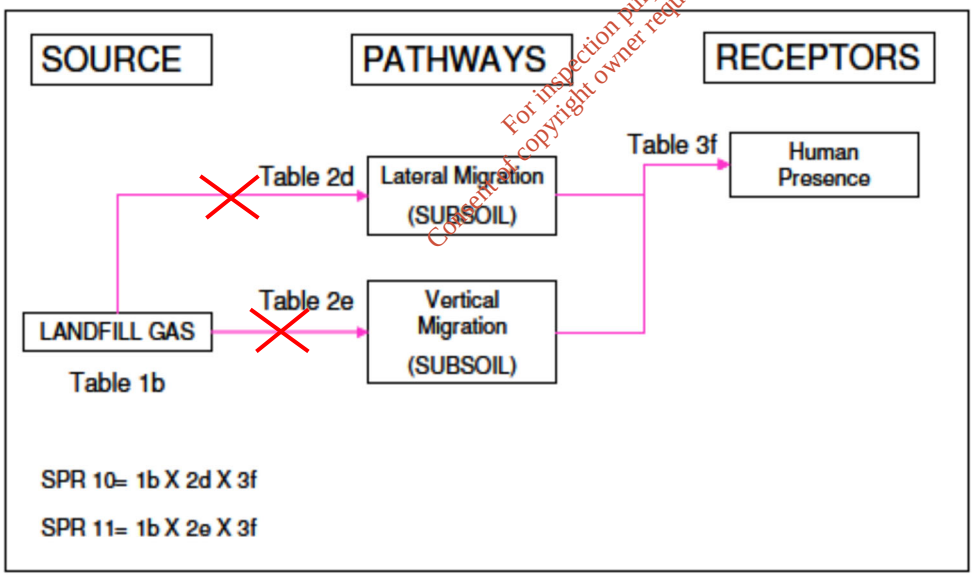


Table 8.4 Refined Risk Assessment & Site Conceptual Model

Source	Pathway(s)	Receptors(s)	Relevant Source – Pathway – Receptor Linkage (SPR)	Mitigation Measures/Recommendations
Contaminants in sub-soils from waste material	Direct contact, ingestion and inhalation	Human Health	**Low** There are no human health receptors present on the site and all contaminants recorded concentrations below their respective generic screening values for a commercial end use.	**No**
Contaminants in shallow groundwater beneath waste body – Ammoniacal Nitrogen, TPH and PAHs	Subsurface infiltration Leaching and Infiltration Vertical Migration Horizontal Migration off-site	Bedrock Aquifer (Poorly Productive) Glen River	**Low** The shallow groundwater appears to have been impacted by contaminants from the waste. No major impact has been observed on the downstream surface water samples or deep groundwater samples in relation to Hydrocarbons and PAHs. Additional monitoring undertaken in 2020 confirms minimal impact upon the deep groundwater and surface water. The risk to the Glen River is deemed to be low.	**No**
Ground Borne Gases	Migration to Indoor Air	Humans in the form of future site users	**Low** Low levels of Methane and slightly elevated levels of Carbon Dioxide were monitored on site. The potential for vertical and horizontal migration of gas off site to impact on the nearby residential receptor is minimal.	**No**

Upon refinement of the CSM, the initial risk screening and score has also been revised and is presented in Table 8.5.

Table 8.5 Risk Screening Exercise

Table	Score	Rationale
1a Leachate Hazard	5	The area of the waste body is estimated to be 0.08 Ha. The site was council owned and was in operation from 1975 until 1983 accepting municipal waste.
1b Landfill Gas Hazard	5	The area of the waste body is estimated to be 0.08 Ha. The site was council owned and was in operation from 1975 until 1983 accepting municipal waste.
2a Leachate Migration-GW Vulnerability	0.5	Groundwater vulnerability is Low
2b Leachate Migration-GW Flow Regime	1	Pl (Poor Aquifer -Bedrock which is generally unproductive except for local zones). From GSI Draft Bedrock Aquifer Map.
2c Leachate Migration-SW Drainage	2	There is a direct connection between drainage ditches and surface water body.
2d Landfill Gas -Lateral Migration	1	The surrounding area is located on peat. From GSI Teagasc subsoil map.
2e Landfill Gas -Vertical Migration	1	The surrounding area is located on peat. From GSI Teagasc subsoil map. No receptors are located above the source
3a Leachate Migration-Human Presence	2	The nearest resident is within 60m of the site.

Table	Score	Rationale
3b Leachate Migration-Protected Areas	0	NHA/SAC greater than 1km of the waste body (Coguish Bog pNHA, Slieve League pNHA, West Donegal Coast SPA, Slieve League SAC) There are no groundwater dependent terrestrial ecosystems within 1km of the site. Corine data indicates that the site is located on a peat bog.
3c Leachate Migration-Aquifer Category	1	Pl (Poor Aquifer -Bedrock which is generally unproductive except for local zones). From GSI Draft Bedrock Aquifer Map.
3d Leachate Migration-Public Water Supplies	0	Greater than one 1km no karst aquifer (Carrick Old Water Supply). From GSI Map
3e Leachate Migration-Surface Water Bodies	3	There is a stream running adjacent to the eastern site boundary which discharges to the River Glen
3f Landfill Gas - Human Presence	3	The nearest resident is within 60m of the site.

Table 8.5 Risk Screening Exercise (continued)

SPR	Equation	SPR Linkage Score	Maximum Linkage Score	Linkage	Normalised score %
1	1aX(2a+2b+2c)X 3e	52.5	300	Leachate Migration through groundwater and surface water	17.5
2	1aX(2a+2b+2c)X 3e (SWDTE)	0.0	300	Leachate Migration through groundwater and surface water	0.0
3	1aX(2a+2b)X 3a	15	240	Leachate Migration through groundwater pathway	6.25
4	1aX(2a+2b)X 3b	0.0	240	Leachate Migration through groundwater pathway	0.0
5	1aX(2a+2b)X 3c	7.5	400	Leachate Migration through groundwater pathway	1.875
6	1aX(2a+2b)X 3d	0	560	Leachate Migration through groundwater pathway	0.0
7	1aX(2a+2b)X 3e	22.5	240	Leachate Migration through groundwater pathway	9.375
8	1aX2cX 3e	30	60	Leachate Migration through surface water pathway	50.0
9	1aX2cX 3b (SWDTE)	0.0	60	Leachate Migration through surface water pathway	0.0
10	1bX2dX 3f	15	150	Landfill Migration Pathways	10.0
11	1bX2eX 3f	15	250	Landfill Migration Pathways	6.0

Although the site is classified as Moderate Risk (Class B) from the scoring matrix, an analysis of the laboratory results and revised CSM indicates that the risk to the adjacent surface water is considered to be Low.

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

An environmental risk assessment has been carried out with respect to an historic landfill at an area of land to the east of Carrick. The assessment was undertaken in accordance with the EPA Code of Practice for Environmental Risk Assessment of Unregulated Waste Disposal Sites, 2007, and comprised Tier 1 Preliminary Assessment and Screening; Tier 2 Exploratory Site investigation and Testing, and Tier 3 Conceptual Model Refinement and Generic Quantitative Risk Assessment.

The assessment has concluded the following:

- Chemical analysis of soil results indicated that all samples recorded contaminant concentrations below generic screening values for a commercial end use.
- Chemical analysis of groundwater samples indicated that the shallow groundwater beneath the waste body has been impacted by Ammoniacal Nitrogen, Hydrocarbons and PAHs.
- The deep groundwater in the bedrock aquifer has not been impacted by Hydrocarbons and PAHs. Elevated levels of Ammoniacal Nitrogen were detected in both upstream and downstream samples which indicates that these levels are naturally occurring.
- Chemical analysis of upstream and downstream surface water samples indicates that the adjacent surface water receptor has not been impacted by Hydrocarbons and PAHs.
- The laboratory results indicate that the impacted shallow groundwater beneath the waste body is not impacting upon the adjacent surface water receptor and the risk to surface water quality is low.
- Levels of Methane were recorded to be low whilst slightly elevated levels of Carbon Dioxide were detected. The risk to the adjacent residential receptor is deemed to be low due to the lack of a significant horizontal and vertical migration pathway.

9.2 Remedial Recommendations

As the risk to surface water quality is Low, no remedial measures are required other than the decommissioning of boreholes upon agreement with the EPA.

9.2.1 Decommissioning of Boreholes

Improperly abandoned boreholes may act as preferential pathways for groundwater or contaminant transport which may result in groundwater contamination, mixing of groundwaters of variable quality from different aquifers or present a physical hazard. It is proposed that the six boreholes onsite should be decommissioned in line with Scottish Environment Protection Agency (SEPA) guidance ‘Good Practice for Decommissioning Redundant Boreholes and Wells’. It is recommended the advice of a specialist well contractor is sought prior to decommissioning works.

The ground conditions of the site and health and safety must be carefully considered prior to decommissioning works.

Headworks and casing

All above ground headworks should be removed. Purging pipework should also be removed to prevent any interference with the sealing of the hole.

Backfilling

The borehole should be backfilled with clean, inert, uncontaminated or excavated materials so that the permeability of the selected materials is similar to the properties of the geological strata against which they are placed. This will protect groundwater flow and quality. Suitable materials recommended in the SEPA guidance include pea gravel, sand, shingle, concrete, bentonite, cement grout and uncontaminated rock.

For shallow boreholes (BH04-BH06) installed with a response zone in the waste material, the entire borehole should be backfilled with low permeability material such as concrete or bentonite cement grout.

Deep boreholes (BH01-03) installed with a response zone in the Schist bedrock should be backfilled with permeable aggregates such as sand and pea gravel adjacent to the aquifer horizon in the schist bedrock. The boreholes should then be backfilled with low permeability materials such as concrete or bentonite cement grout from the schist bedrock back to ensure that a vertical pathway is not created.

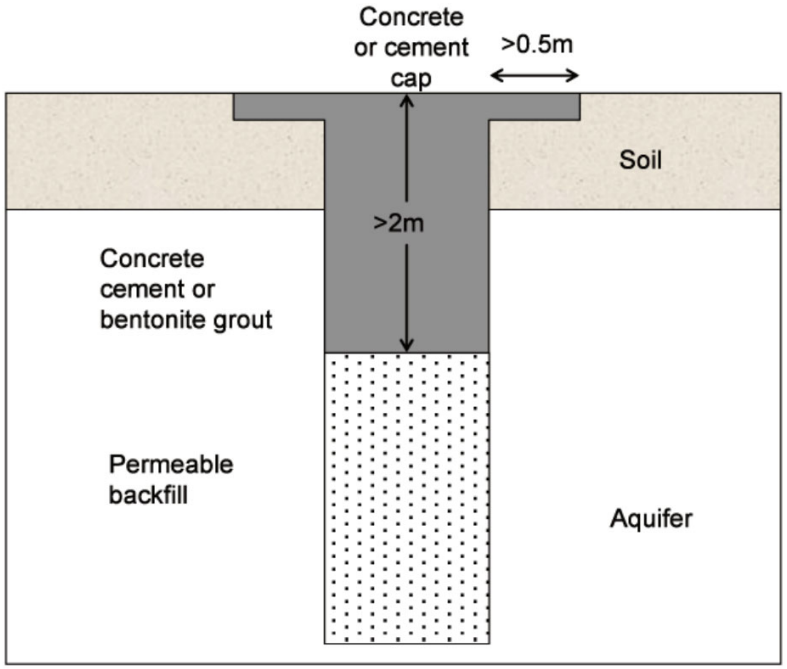
The geochemical environment of the borehole should be considered when backfilling as materials may behave differently under different environmental conditions.

The grain size of the aggregates should be selected that allows easy delivery into the borehole and should be delivered in a controlled manner to prevent 'bridging' or the creation of voids in the borehole. The volume of backfill should be monitored as it is placed to check for 'bridging' within the borehole or any loss to formation.

Sealing of borehole

The backfilled borehole should be complete with an impermeable plug and cap to prevent potentially contaminated surface runoff entering the backfilled borehole. The top two meters should be filled with cement, concrete or bentonite grout. A concrete cap of suitable strength with a diameter at least one metre greater than the width of the backfilled borehole should then be installed as per Figure 9.1.

Figure 9.1 Sealing and capping of borehole (Source: SEPA 'Good practice for decommissioning redundant boreholes and wells')



Recording

The following details should be recorded during the decommissioning of boreholes to verify that they have been decommissioned in accordance with the outlined procedures:

- Reason for abandonment of borehole;
- Measured of depth of borehole and groundwater level prior to backfilling;
- The depth and position of each layer of backfilling and sealing materials;
- The type and quantity of backfilling and sealing materials used;
- Any changes made to borehole during the abandonment;
- Any problems encountered during the abandonment procedure.

Estimate of Costs

An estimated cost for the decommissioning of six boreholes is €2,100.00 as outlined in Table 9.1.

Table 9.1 Cost estimate for decommissioning of boreholes

Item	Cost Estimate
Materials	€700.00
Contractor	€1,000.00
Environmental consultant (1 day)	€400.00
Total	**€2,100.00**

Appendix A
Causeway Geotech Ltd Site Investigation Report

FINAL
FOR ISSUE

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Site Investigation at Carrick Historic Landfill, Donegal

Primary Author:	Darren O'Mahony
Client:	Donegal County Council
Client's Representative:	RPS Group
Completed:	26 November 2012
Report No.:	12-407
File Location:	12-407 report

CAUSEWAY GEOTECH

CONTENTS Page No.

Appendices

Document Control Sheet

Report No.: 12-407

Project title: Site Investigation at Carrick Landfill, Donegal

Client: Donegal County Council

Client's Representative: RPS Group

Revision	Status	Report prepared by:	Report reviewed by:	Issue date
A01	Final	Darren O'Mahony BSc MSc	Paul Dunlop BEng PhD CEng MIEI	26 November 2012

The works were conducted in accordance with:

Site Investigation in Construction Part 3: Specification for Ground Investigation, Site Investigation Steering Group, published by Thomas Telford Ltd (1993)

British Standards Institute (2010) *BS 5930:1999 + A2: 2010, Code of practice for site investigations.* Incorporating Amendment Nos. 1 and 2, as partially replaced by:

- BS EN 1997-2:2007: *Eurocode 7. Geotechnical design. Ground investigation and testing*
- BS EN ISO 22475-1:2006: *Geotechnical investigation and testing. Sampling methods and groundwater measurements. Technical principles for execution*
- BS EN ISO 14688-1:2002: *Geotechnical investigation and testing. Identification and classification of soil. Identification and description*
- BS EN ISO 14688-2:2004: *Geotechnical investigation and testing. Identification and classification of soil. Principles for a classification*
- BS EN ISO 14689-1:2003: *Geotechnical investigation and testing. Identification and classification of rock. Identification and description*
- BS EN ISO 22476-2:2005: *Geotechnical investigation and testing. Field testing. Dynamic probing*
- BS EN ISO 22476-3:2005: *Geotechnical investigation and testing. Field testing. Standard penetration test*

Methods of describing soils and rocks

Soil and rock descriptions are based on the guidance in Section 6 of BS 5930: 1999 + A2: 2010, *The Code of Practice for Site Investigation*. The amendments revised the Standard to remove text superseded by BS EN ISO 14688-1:2002, BS EN ISO 14688-2:2004 and EN ISO 14689-1:2003 and refers to the relevant standard for each affected subclause. However, the following terms are used in the description of fine-grained soils, where applicable:

- soft to firm: fine-grained soil with consistency description close to the boundary between soft and firm soil (Table 13 of BS5930).
- firm to stiff: fine-grained soil with consistency description close to the boundary between firm and stiff soil (Table 13 of BS5930).

Abbreviations used on exploratory hole logs	
U	Nominal 100mm diameter undisturbed open tube sample
P	Nominal 100mm diameter undisturbed piston sample
B	Bulk disturbed sample
D	Small disturbed sample
W	Water sample
ES / EW	Soil sample for environmental testing / Water sample for environmental testing
SPT	Standard penetration test using a split spoon sampler (small disturbed sample obtained)
SPT (C)	Standard penetration test using 60 degree solid cone
x,x/x,x,x,x	Blows per increment during the standard penetration test. The initial two values relate to the seating drive (150mm) and the remaining four to the 75mm increments of the test length. The length achieved is stated (mm) for any test increment less than 75mm
N=X	SPT blow count 'N' given by the summation of the blows 'X' required to drive the full test length (300mm)
N=X/Z	Incomplete standard penetration test where the full test length was not achieved. The blows 'X' represent the total blows for the given test length 'Z' (mm)
V **VR**	Shear vane test (borehole) Hand vane test (trial pit) Shear strength stated in kPa V: undisturbed vane shear strength VR: remoulded vane shear strength
dd/mm/yy: 1.0 **dd/mm/yy: dry**	Date & water level at the borehole depth at the end of shift and the start of the following shift
Abbreviations relating to rock core - reference Clause 44.4.4 of BS 5930: 1999	
TCR (%)	Total Core Recovery: Ratio of rock/soil core recovered (both solid and non-intact) to the total length of core run.
SCR (%)	Solid Core Recovery: Ratio of *solid core* to the total length of core run. *Solid core* has a full diameter, uninterrupted by natural discontinuities, but not necessarily a full circumference and is measured along the core axis between natural fractures.
RQD (%)	Rock Quality Designation: Ratio of total length of *solid core* pieces greater than 100mm to the total length of core run.
FI	Fracture Index: Number of natural discontinuities per metre over an indicated length of core of similar intensity of fracturing.
NI	Non Intact: Used where the rock material was recovered fragmented, for example as fine to coarse gravel size particles.
AZCL	Assessed zone of core loss: The estimated depth range where core was not recovered.
DIF	Drilling induced fracture: A fracture of non-geological origin brought about by the rock coring.

Site Investigation at Carrick Landfill, Donegal

1 AUTHORITY

On the instructions of Consulting Engineers, RPS Group ("the Client's Representative"), on behalf of Donegal County Council ("the Client"), a ground investigation was undertaken at the above location to provide geotechnical and environmental information relating to a historic public landfill.

This report details the work carried out both on site and in the geotechnical testing laboratory; it contains a description of the site and the works undertaken, the exploratory hole logs and the laboratory test results. A discussion on the recommendation for construction is also provided.

All information given in this report is based upon the ground conditions encountered during the site investigation works, and on the results of the laboratory and field tests performed. However, there may be conditions at the site that have not been taken into account, such as unpredictable soil strata, contaminant concentrations, and water conditions between or below exploratory holes. It should be noted that groundwater levels usually vary due to seasonal and/or other effects and may at times differ to those measured during the investigation.

This report was prepared by Causeway Geotech Ltd for the use of the Client and the Client's Representative in response to particular instructions. Any other parties using the information contained in this report do so at their own risk and any duty of care to those parties is excluded.

2 SCOPE

The extent of the investigation, as instructed by the Client's Representative, included boreholes, soil sampling, in-situ and laboratory testing, and the preparation of a factual report on the findings.

3 DESCRIPTION OF SITE

As shown on the site location plan in Appendix A, the works were conducted on overgrown land located off the R263 approximately 250m east of Carrick, Co. Donegal. The site is roughly square in form and is currently overgrown with scrub vegetation.

4 SITE OPERATIONS

The Site Operations, conducted on 31 October - 1 November 2012, comprised:

- three percussion boreholes
- three rotary drilled boreholes

- a standpipe installation in six boreholes
- in-situ permeability testing by variable head method in each standpipe.

The exploratory holes and insitu tests were located as instructed by the Client's Representative, as shown on the exploratory hole location plan in Appendix A.

4.1 Boreholes

Three boreholes (BH04 - BH06) were put down in 150mm diameter using a Dando Terrier light percussion boring rig. All boreholes met refusal on suspected bedrock, at a depths ranging 5.00m - 6.70m.

Disturbed (small bag and bulk bag) samples were taken within the encountered strata.

Standard penetration tests were carried out at 1m depth intervals using the split spoon sampler (SPT). The penetrations are stated for those tests for which the full 150mm seating drive or 300mm test drive was not possible.

Any water strikes encountered during boring were recorded along with any changes in their levels as the borehole proceeded.

Appendix B presents the borehole logs.

4.2 Rotary drilled boreholes

Three boreholes (BH01 - BH03) were put down in 150mm diameter using a Comacchio 205 dual purpose dynamic sampling and rotary drilling rig. The boreholes were advanced through overburden and onto bedrock by dynamic sampling methods, and were then drilled into bedrock using Symmetrix full-hole rotary drilling methods.

Disturbed (small bag and bulk bag) samples were taken within the encountered strata.

Standard penetration tests were carried out at interval depths using the split spoon sampler (SPT). The penetrations are stated for those tests for which the full 150mm seating drive or 300mm test drive was not possible.

Appendix B presents the borehole logs.

4.3 Standpipe installations

A groundwater monitoring standpipe was installed in all boreholes.

Details of the installations, including the diameter of the pipe and depth range of the response zone, are provided in Appendix B on the sheet following the relevant borehole log.

4.4 Falling head permeability tests

Variable head permeability tests were conducted, in accordance with BS 5930:1999 (incorporating Amendment 1 of December 2007) in the standpipe installations.

Appendix C provides the readings and analyses of the tests.

5 LABORATORY WORK

Upon their receipt in the laboratory, all disturbed samples were carefully examined and accurately described and their descriptions incorporated into the borehole logs.

Environmental laboratory testing, as specified by the Client's Representative, was conducted on selected environmental samples by Chemtest at its laboratory in Newmarket, Suffolk. Details of environmental testing are presented in the associated Environmental Report, presented in Appendix D.

6 GROUND CONDITIONS

The exploratory holes encountered the following ground types:

- Made Ground: typical landfill material, encountered in boreholes BH04 - BH06 to depths of 2.20m - 2.90m
- Peat: encountered in all boreholes to depths ranging between 0.20m - 2.50m
- Glacial Till: sandy gravelly clay/silt, typically soft or firm. Locally lenses of sandy gravel were encountered within the till.
- Bedrock: probably medium strong grey Schist (recovered as gravel - percussive drilling methods employed).

6.1 Groundwater

Groundwater was encountered, during exploration, in boreholes BH02 - BH06 to depths ranging from 2.20m - 4.00m. The exploratory hole logs for each location make note of the individual water strikes.

7 REFERENCES

British Standards Institute (1990) *BS 1377:1990, Methods of test for soils for civil engineering purposes. Parts 1 to 9.*

British Standards Institute (1999) *BS 5930:1999, Code of practice for site investigations. Incorporating Amendment No. 1 of December 2007.*

APPENDIX A

Site and exploratory hole location plans

KEY:

N

ENGINEER:

RPS

CLIENT:

Donegal County Council

PROJECT NAME:

Carrick Landfill, Co. Donegal

SITE ADDRESS (IF APPLICABLE):

TITLE:

Site location plan

SCALE:		DATE:	
NTS		23/11/12	
DWG NO:	REV:	DRWN:	CHCK:
12-407		MD	DOM

CAUSEWAY GEOTECH

Causeway Geotech
8 Drumahiskey Road
Balnamore
Ballymoney
Co. Antrim, BT53 7QL

KEY:

BH - Borehole

N

ENGINEER:

RPS

CLIENT:

Donegal County Council

PROJECT NAME:

Carrick Landfill, Co. Donegal

SITE ADDRESS (IF APPLICABLE):

TITLE:

Exploratory hole location plan

SCALE:		DATE:	
NTS		23/11/12	
DWG NO:	REV:	DRWN:	CHCK:
12-407		MD	DOM

CAUSEWAY GEOTECH
Causeway Geotech
8 Drumahiskey Road
Balnamore
Ballymoney
Co. Antrim, BT53 7QL

APPENDIX B

Borehole and standpipe logs

Causeway Geotech Ltd

Project No: 12-407	**Project Name:** Carrick Landfill Site, Co. Donegal	**Borehole No.** BH01
Method and Equipment: Rotary drilling 0.00-5.60m	**Co-ords:** - -	**Client:** Donegal County Council
		Engineer: RPS Group
	Ground Level: -	**Dates:** 31/10/2012
		Sheet 1 of 1
		Scale: 1:40
		Driller: JG
		Logger: DE

Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level	Depth (Thickness)	Stratum Description
							Spongy dark brown pseudo-fibrous PEAT
0.20	D					0.20	
						(0.40)	Grey brown silty gravelly CLAY
0.60	B					0.60	
							Grey SCHIST (recovered as angular to subangular fine to coarse gravel)
						(5.00)	
				31/10/2012 dry		5.60	
							End of Borehole at 5.60 m
	Type						

Legend & Water Strikes | Backfill & Installs

Remarks:
Standpipe installed.

Water Strikes:
Struck (m) | rising to (m) | time (min)
No Groundwater Encountered

Core Barrel:

Flush type:

Casing:
to (m) | dia. (mm)

Last Revised: 26/11/2012

Causeway Geotech Ltd

Project No.	Project Name:	Borehole No.
12-407	Carrick Landfill Site, Co. Donegal	BH01

Installation Type: SP1 - Standpipe to 5.60m (50mm dia)

Cover Type: Upright cover fitted.

Co-ords: - -

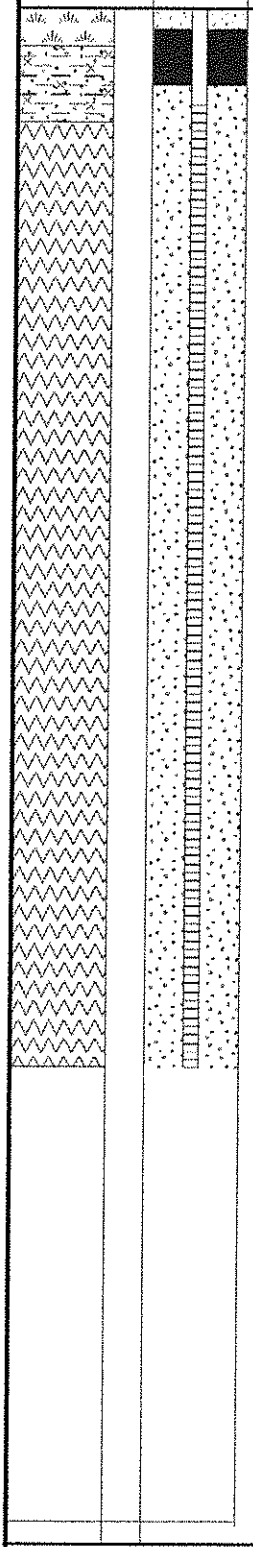
Ground Level: -

Client: Donegal County Council

Engineer: RPS Group

Date of installation: 31/10/2012

Sheet 1 of 1 | **Scale:** 1:40 | **Driller:** JG | **Logger:** DE



Legend & Water Strikes	Backfill/ Installs	Level (m)	Depth (m)	Description
			0.10	Concrete
			0.40	Bentonite
			5.60	Gravel filter

Groundwater Strikes During Drilling

Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)
				No Groundwater Encountered			

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level BH01
31/10/12						1000	5.60	-	-	-

Groundwater Monitoring Results

Install I.D.	Date	Time	Water Depth (m)	Water Level (m)

Gas Monitoring Results

Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	LEL

Remarks:

Last Revised: 05/11/2012

Causeway Geotech Ltd

Project No. 12-407	**Project Name:** Carrick Landfill Site, Co. Donegal		**Borehole No.** BH02
Method and Equipment: Rotary drilling 0.00-7.25m	**Co-ords:** - -	**Client:** Donegal County Council	Sheet 1 of 1
		Engineer: RPS Group	**Scale:** 1:40
	Ground Level: -	**Dates:** 31/10/2012	**Driller:** JG
			Logger: PD

Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level / Depth (Thickness)	Stratum Description
						Spongy dark brown pseudo-fibrous PEAT
1.00 1.00	SPT B	1.00	dry	N=0 N=0 (1,0,0,0,0,0)	(1.70)	
					1.70	Firm grey and blue silty gravelly CLAY. Gravel is subangular to subrounded fine to coarse
2.00 2.00	SPT B	2.00	dry	N=26 N=26 (2,4,4,6,8,8)	(0.55)	
					2.25	Grey SCHIST (recovered as angular to subangular fine to coarse gravel)
3.00	B					
					(5.00)	
				31/10/2012 2.25m	7.25	End of Borehole at 7.25 m

Legend & Water Strikes: 1

Backfill & Installs

Type

Remarks:
Standpipe installed.

Water Strikes:

Struck (m)	rising to (m)	time (min)
2.25	-	-

Core Barrel:

Flush type:

Casing: to (m) dia. (mm)

Last Revised: 26/11/2012

Causeway Geotech Ltd

Project No.	Project Name:	Borehole No.
12-407	Carrick Landfill Site, Co. Donegal	BH02

Installation Type: SP2 - Standpipe to 7.25m (50mm dia)

Cover Type: Upright cover fitted.

Co-ords: - -

Ground Level: -

Client: Donegal County Council

Engineer: RPS Group

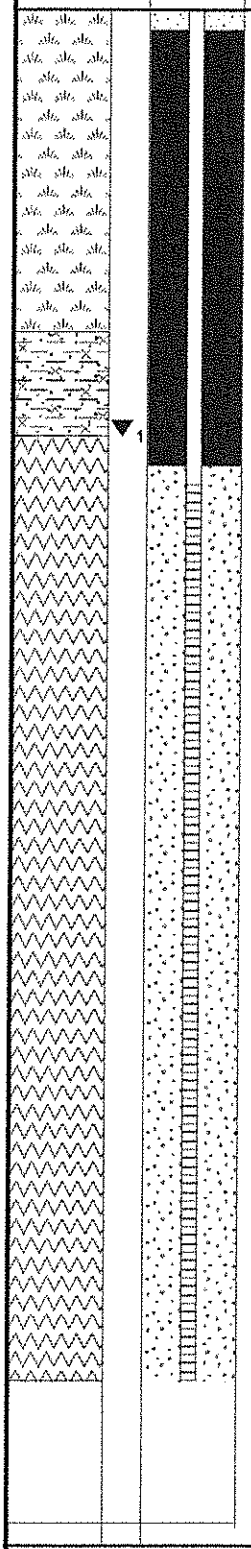
Date of installation: 31/10/2012

Sheet 1 of 1

Scale: 1:40

Driller: JG

Logger: PD



Legend & Water Strikes	Backfill/ Installs	Level (m)	Depth (m)	Description
			0.10	Concrete
				Bentonite
			2.40	
				Gravel filter
			7.25	

Groundwater Strikes During Drilling

Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)
31/10/12	0000	1	2.25	-	Water Strike	-	-

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level BH02
31/10/12						1200	7.25	-	2.25	-

Groundwater Monitoring Results

Install I.D.	Date	Time	Water Depth (m)	Water Level (m)

Gas Monitoring Results

Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	LEL

Remarks:

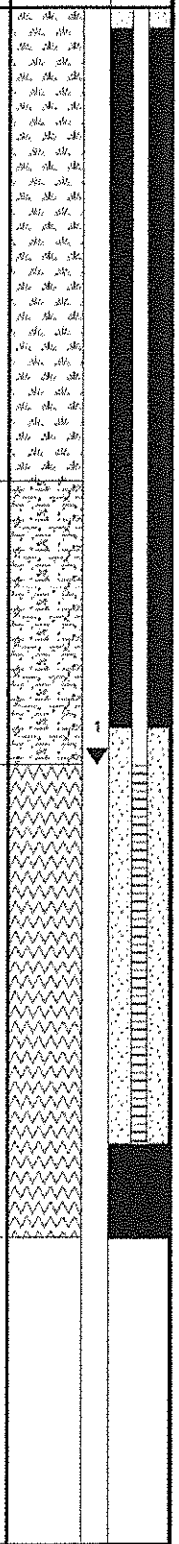
Last Revised: 05/11/2012

Causeway Geotech Ltd

Project No: 12-407	**Project Name:** Carrick Landfill Site, Co. Donegal		**Borehole No.** BH03
Method and Equipment: Rotary drilling 0.00-6.50m	**Co-ords:** - -	**Client:** Donegal County Council	Sheet 1 of 1
		Engineer: RPS Group	**Scale:** 1:40
	Ground Level: -	**Dates:** 31/10/2012	**Driller:** JG
			Logger: PD

Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description
						Spongy dark brown pseudo-fibrous PEAT
1.00	SPT	1.00	dry	N=1		
1.00	B			N=1 (1,0,0,1,0,0)	(2.50)	
1.50	B					
2.00	SPT	2.00	dry	N=4		
2.00	B			N=4 (1,1,1,1,1,1)		
					2.50	Soft grey brown silty gravelly CLAY. Gravel is subangular to subrounded fine to coarse
					(1.50)	
					4.00	Grey SCHIST (recovered as angular to subangular fine to coarse gravel)
					(2.50)	
				31/10/2012 4.00m	6.50	End of Borehole at 6.50 m
	Type					

Legend & Water Strikes / Backfill & Installs



Remarks:
Standpipe installed.

Water Strikes:

Struck (m)	rising to (m)	time (min)
4.00	-	-

Last Revised: 26/11/2012

Core Barrel:

Flush type:

Casing: to (m) dia. (mm)

Causeway Geotech Ltd

Project No.	Project Name:	Borehole No.
12-407	Carrick Landfill Site, Co. Donegal	BH03

Installation Type: SP3 - Standpipe to 6.00m (50mm dia)

Cover Type: Upright cover fitted.

Co-ords: - -

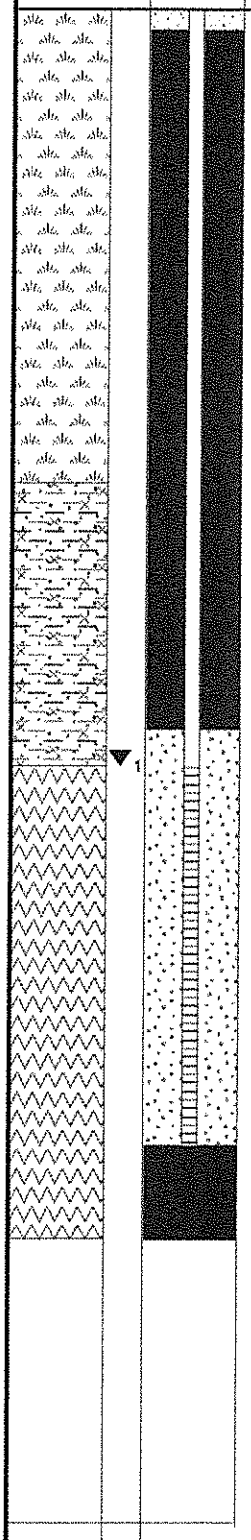
Client: Donegal County Council

Engineer: RPS Group

Ground Level: -

Date of installation: 31/10/2012

Sheet 1 of 1 | **Scale:** 1:40 | **Driller:** JG | **Logger:** PD



Legend & Water Strikes	Backfill/ Installs	Level (m)	Depth (m)	Description
			0.10	Concrete
				Bentonite
			3.80	
				Gravel filter
			6.00	
				Bentonite
			6.50	

Groundwater Strikes During Drilling

Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)
31/10/12	0000	1	4.00	-	Water Strike	-	-

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level BH03
31/10/12						1400	6.50	-	4.00	-

Groundwater Monitoring Results

Install I.D.	Date	Time	Water Depth (m)	Water Level (m)

Gas Monitoring Results

Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	LEL

Remarks:

Last Revised: 05/11/2012

Causeway Geotech Ltd

Project No. 12-407	**Project Name:** Carrick Landfill Site, Co. Donegal		**Borehole No.** BH04
Method and Equipment: Percussion boring 0.00-6.00m	**Co-ords:** - -	**Client:** Donegal County Council	Sheet 1 of 1
		Engineer: RPS Group	**Scale:** 1:40
	Ground Level: -	**Dates:** 31/10/2012	**Driller:** DE
			Logger: PD

Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level (Thickness)	Depth	Stratum Description
						0.10	Spongy dark brown pseudo-fibrous PEAT
							MADE GROUND: Soft brown Topsoil, Cinder, Cobbles (Domestic Waste)
1.00	SPT	1.00	dry	N=3			
1.00	B			N=3 (0,0,1,0,0,2)			
1.00	D				(2.30)		
2.00	SPT	2.00	dry	N=0			
2.00	B			N=0 (2,0,0,0,0,0)			
2.00	D					2.40	
							Firm greenish grey sandy gravelly SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to medium
3.00	SPT	3.00	dry	N=15			
3.00	B			N=15 (4,5,3,4,4,4)			
3.00	D				(2.40)		
4.00	SPT	4.00	dry	N=30			
4.00	B			N=30 (4,3,7,8,7,8)			
4.00	D						
4.90	D					4.80	
5.00	SPT	5.00	dry	N=36			Dense green and brown sandy silty angular to subrounded fine to medium GRAVEL. Sand is fine to coarse
				N=36 (3,4,6,9,9,12)	(1.10)		
5.90	SPT	5.90	dry	50/75mm 31/10/2012 2.20m		5.90	
				75mm (25,50)		6.00	Grey SCHIST (recovered as sandy angular to subangular fine to coarse gravel)
							End of Borehole at 6.00 m

Type

Remarks:
Standpipe installed.

Chiseling:

From (m)	to (m)	time (hh:mm)

Water Strikes:

Struck (m)	rising to (m)	time (min)
2.20	-	-

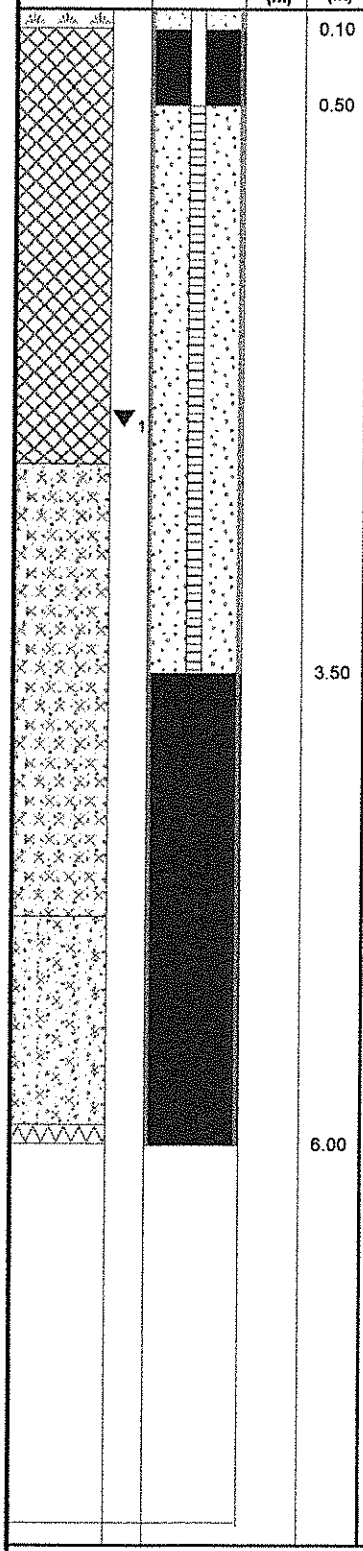
Casing:

to (m)	dia. (mm)
6.00	150

Last Revised: 26/11/2012

Causeway Geotech Ltd

Project No. 12-407	**Project Name:** Carrick Landfill Site, Co. Donegal		**Borehole No.** BH04
Installation Type: SP4 - Standpipe to 3.50m (50mm dia)	**Co-ords:** - -	**Client:** Donegal County Council	Sheet 1 of 1
		Engineer: RPS Group	**Scale:** 1:40
Cover Type: Upright cover fitted. Push cap and gas valve fitted.	**Ground Level:** -	**Date of installation:** 31/10/2012	**Driller:** DE
			Logger: PD



Groundwater Strikes During Drilling

Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)
31/10/12	0000	1	2.20	-	Water Strike	-	-

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level BH04
31/10/12						0900	6.00	6.00	2.20	-

Groundwater Monitoring Results

Install I.D.	Date	Time	Water Depth (m)	Water Level (m)

Gas Monitoring Results

Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	LEL

Remarks:

Last Revised: 05/11/2012

Causeway Geotech Ltd

Project No.	Project Name:	Borehole No.
12-407	Carrick Landfill Site, Co. Donegal	BH05

Method and Equipment: Percussion boring 0.00-6.70m

Co-ords: - -

Client: Donegal County Council

Engineer: RPS Group

Ground Level: -

Dates: 01/11/2012

Sheet 1 of 1 | **Scale:** 1:40 | **Driller:** DE | **Logger:** PD

Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level / Depth (Thickness)	Stratum Description
						Spongy dark brown pseudo-fibrous PEAT
					0.30	
						MADE GROUND: Soft brown CLAY with cinders (Domestic Waste)
1.00	SPT	1.00	dry	N=1		
1.00	B			N=1 (1,0,0,0,0,1)		
1.00	D					
					(2.60)	
2.00	SPT	2.00	dry	N=1		
2.00	B			N=1 (0,0,0,0,0,1)		
2.00	D					
					2.90	
3.00	SPT	3.00	dry	N=3		Soft green and grey sandy gravelly SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to medium
3.00	B			N=3 (0,1,0,1,1,1)		
3.00	D					
					(1.90)	
4.00	SPT	4.00	dry	N=16		
4.00	B			N=16 (2,3,2,4,4,6)		
4.00	D					
					4.80	
5.00	SPT	5.00	dry	N=28		Dense greenish grey sandy silty angular to subrounded fine to medium GRAVEL. Sand is fine to coarse
5.00	B			N=28 (2,3,5,7,7,9)		
5.00	D					
					(1.90)	
				01/11/2012 2.90m		
6.70	SPT	6.70	dry	~~50/30mm~~	6.70	End of Borehole at 6.70 m — 6.70m: Refusal met on possible bedrock
6.70	D			30mm (25,50)		

Type

Legend & Water Strikes | Backfill / Installs

Remarks: Standpipe installed.

Chiseling: From (m) | to (m) | time (hh:mm)

Water Strikes:

Struck (m)	rising to (m)	time (min)
2.90	-	-

Casing: to (m) 6.70 | dia. (mm) 150

Last Revised: 05/11/2012

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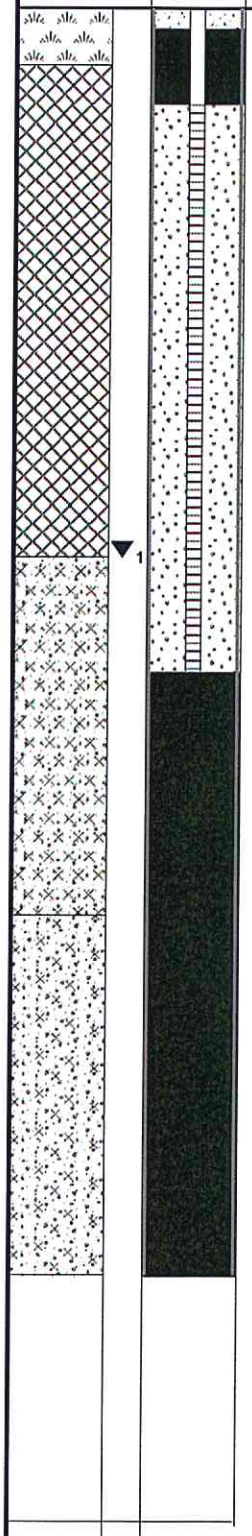
Project No. 12-407	**Project Name:** Carrick Landfill Site, Co. Donegal		**Borehole No.** BH05
Installation Type: SP5 - Standpipe to 3.50m (50mm dia)	**Co-ords:** - -	**Client:** Donegal County Council	Sheet 1 of 1
		Engineer: RPS Group	**Scale:** 1:40
Cover Type: Upright cover fitted. Push cap and gas valve fitted	**Ground Level:** -	**Date of installation:** 01/11/2012	**Driller:** DE
			Logger: PD



Legend & Water Strikes	Backfill/ Installs	Level (m)	Depth (m)	Description
			0.10	Concrete
				Bentonite
			0.50	
				Gravel filter
			3.50	
				Bentonite
			6.70	

Groundwater Strikes During Drilling

Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)
01/11/12	0000	1	2.90	-	Water Strike	-	-

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level BH05
01/11/12						1000	6.70	6.70	2.90	-

Groundwater Monitoring Results

Install I.D.	Date	Time	Water Depth (m)	Water Level (m)

Gas Monitoring Results

Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	LEL

Remarks:

Last Revised: 05/11/2012

Causeway Geotech Ltd

Project No.	Project Name:	Borehole No.
12-407	Carrick Landfill Site, Co. Donegal	BH06

Method and Equipment: Percussion boring 0.00-5.00m

Co-ords: - -

Client: Donegal County Council

Engineer: RPS Group

Ground Level: -

Dates: 31/10/2012

Sheet 1 of 1 | **Scale:** 1:40 | **Driller:** DE | **Logger:** PD

Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level	Depth (Thickness)	Stratum Description
							MADE GROUND: Cinders with topsoil (Domestic Waste)
1.00 1.00 1.00	SPT B D	1.00	dry	N=2 N=2 (0,0,0,1,0,1)		(1.90)	
						1.90	Spongy brown pseudo-fibrous PEAT
2.00 2.00 2.00	SPT B D	2.00	dry	N=3 N=3 (0,0,0,1,1,1)		2.20	Soft greenish grey sandy gravelly SILT. Sand is fine to coarse. Gravel is angular to subrounded fine to medium
3.00 3.00 3.00	SPT B D	3.00	dry	N=13 N=13 (2,3,3,4,3,3)		(1.50)	
						3.70	Dense greenish grey sandy silty angular fine to medium GRAVEL. Sand is fine to coarse
4.00 4.00 4.00	SPT B D	4.00	dry	N=24 N=24 (4,4,6,5,6,7)		(1.20)	
4.90 4.90	SPT D	4.90	dry	50/30mm 30mm (25,50)	31/10/2012 2.20m	4.90 5.00	Grey SCHIST (recovered as sandy angular to subangular fine to coarse gravel) End of Borehole at 5.00 m

Type

Remarks: Standpipe installed.

Chiseling:

From (m)	to (m)	time (hh:mm)

Water Strikes:

Struck (m)	rising to (m)	time (min)
2.20	-	-

Casing:

to (m)	dia. (mm)
5.00	150

Last Revised: 26/11/2012

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Causeway Geotech Ltd

Project No.	Project Name:	Borehole No.
12-407	Carrick Landfill Site, Co. Donegal	BH06

Installation Type: SP6 - Standpipe to 2.50m (50mm dia)

Cover Type: Upright cover fitted, Push cap and gas valve fitted

Co-ords: - -

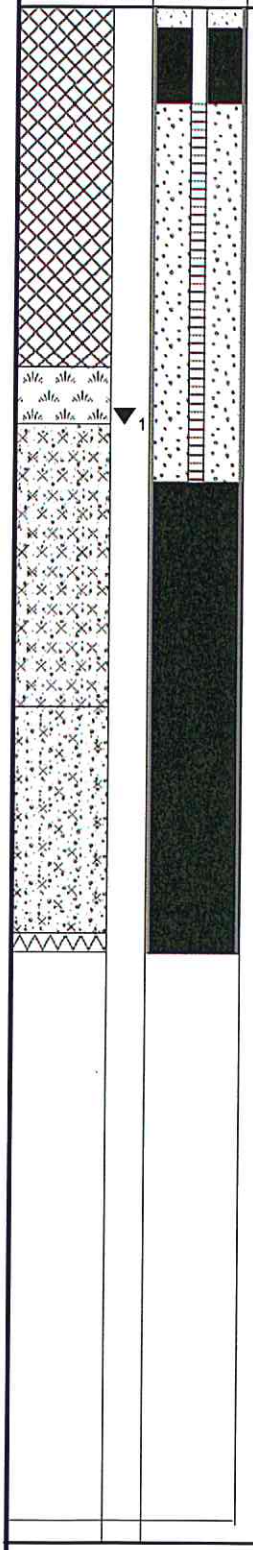
Ground Level: -

Client: Donegal County Council

Engineer: RPS Group

Date of installation: 31/10/2012

Sheet 1 of 1 | **Scale:** 1:40 | **Driller:** DE | **Logger:** PD



Depth (m)	Description
0.10	Concrete
	Bentonite
0.50	
	Gravel filter
2.50	
	Bentonite
5.00	

Groundwater Strikes During Drilling

Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)
31/10/12	0000	1	2.20	-	Water Strike	-	-

Groundwater Observations During Drilling

Date	Start of Shift					End of Shift				
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level BH06
31/10/12						1300	5.00	5.00	2.20	-

Groundwater Monitoring Results

Install I.D.	Date	Time	Water Depth (m)	Water Level (m)

Gas Monitoring Results

Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	LEL

Remarks:

Last Revised: 05/11/2012

APPENDIX C

Falling head permeability test results

VARIABLE HEAD PERMEABILITY TEST (STANDPIPE PIEZOMETER)

CONTRACT: Carrick Landfill BOREHOLE No.: BH01 TEST No.: 1

DATE: 5-Nov-12

TYPE OF TEST: *Rising* HEAD

Diameter of standpipe (d):	*50*	(mm)	
Height of TOP of standpipe above ground level:	*0.40*	(m)	(use -ve values if BELOW g.l.)
Depth to centre of piezo. tip below ground level (m):	*NA*	(m)	
Depth to top of filter below ground level (m):	*0.40*	(m)	
Depth to bottom of filter below ground level (m):	*5.60*	(m)	
Diameter of filter (D):	*125*	(mm)	
Standing ground water level SWL (mbgl):	*0.81*	(m) on:	5-Nov-12

DATUM:All depths to water level measured from top of casing. i.e.SWL 1.21 m below datum.

TIME ELAPSED (mins)	WATER LEVEL* (m)	HEAD H (m)	HEAD RATIO H/Ho
0	5.5	4.29	1.0000
0.5	5.11	3.9	0.9091
1	5.04	3.83	0.8928
1.5	4.92	3.71	0.8648
2	4.83	3.62	0.8438
2.5	4.71	3.5	0.8159
3	4.64	3.43	0.7995
3.5	4.55	3.34	0.7786
4	4.47	3.26	0.7599
4.5	4.38	3.17	0.7389
5	4.31	3.1	0.7226
6	4.13	2.92	0.6807
7	4	2.79	0.6503
8	3.85	2.64	0.6154
9	3.67	2.46	0.5734
10	3.52	2.31	0.5385
12	3.22	2.01	0.4685
14	3	1.79	0.4172
16	2.81	1.6	0.3730
18	2.55	1.34	0.3124
20	2.42	1.21	0.2821
22	2.29	1.08	0.2517
24	2.16	0.95	0.2214
26	2.05	0.84	0.1958
28	1.93	0.72	0.1678
30	1.87	0.66	0.1538
35	1.65	0.44	0.1026
40	1.51	0.3	0.0699
45	1.4	0.19	0.0443
50	1.31	0.1	0.0233
55	1.22	0.01	0.0023
60	1.19	-0.02	-0.0047

CALCULATION OF PERMEABILITY OF SOIL:

Employing Hvorslev formula: k = A/FT

where:

k is the permeability of soil
A is the cross-section area of standpipe
F is the intake factor (see below)
T is the basic time lag factor

Values of intake factors (F/D) for various cylindrical intake zones of length to diameter ratio (L/D) are given in BS 5930:1999; also Dunn and Razouki formula:

F/D = 2.32*PI*(L/D)/loge[1.1*(L/D)+{1+1.1*(L/D)^2}^0.5]

L/D ratio = 41.60 thus F/D= 67.48

i.e. F = 8.44 (m)

and A = 0.00196 (m^2)

and T = 16 mins

(see graph of log H/Ho v Time.)

hence, I **2.4E-07** **m/s**

i.e., k = 2.4×10^{-7} m/s

Causeway Geotech Ltd

VARIABLE HEAD PERMEABILITY TEST (STANDPIPE PIEZOMETER)

CONTRACT: Carrick Landfill BOREHOLE No.: BH02 TEST No.: 1

DATE: 5-Nov-12

TYPE OF TEST: *Rising* HEAD

Diameter of standpipe (d): *50* (mm)

Height of TOP of standpipe above ground level: *0.37* (m) (use -ve values if BELOW g.l.)

Depth to centre of piezo. tip below ground level (m): *NA* (m)

Depth to top of filter below ground level (m): *2.40* (m)

Depth to bottom of filter below ground level (m): *7.25* (m)

Diameter of filter (D): *125* (mm)

Standing ground water level SWL (mbgl): *0.37* (m) on: 5-Nov-12

DATUM:All depths to water level measured from top of casing. i.e.SWL 0.74 m below datum.

TIME ELAPSED (mins)	WATER LEVEL* (m)	HEAD H (m)	HEAD RATIO H/Ho
0	1.19	0.45	1.0000
0.5	1.1	0.36	0.8000
1	1.04	0.3	0.6667
1.5	1	0.26	0.5778
2	0.98	0.24	0.5333
2.5	0.96	0.22	0.4889
3	0.95	0.21	0.4667
3.5	0.92	0.18	0.4000
4	0.92	0.18	0.4000
4.5	0.9	0.16	0.3556
5	0.89	0.15	0.3333
6	0.87	0.13	0.2889
7	0.85	0.11	0.2444
8	0.84	0.1	0.2222
9	0.82	0.08	0.1778
10	0.82	0.08	0.1778
12	0.8	0.06	0.1333
14	0.78	0.04	0.0889
16	0.76	0.02	0.0444
18	0.76	0.02	0.0444
20	0.75	0.01	0.0222
22	0.75	0.01	0.0222
24	0.75	0.01	0.0222
26	0.75	0.01	0.0222
28	0.74	0	0.0000
30	0.74	0	0.0000

CALCULATION OF PERMEABILITY OF SOIL:

Employing Hvorslev formula: k = A/FT

where:

k is the permeability of soil
A is the cross-section area of standpipe
F is the intake factor (see below)
T is the basic time lag factor

Values of intake factors (F/D) for various cylindrical intake zones of length to diameter ratio (L/D) are given in BS 5930:1999; also Dunn and Razouki formula:

F/D = 2.32*PI*(L/D)/loge[1.1*(L/D)+{1+1.1*(L/D)^2}^0.5]

L/D ratio = 38.80 thus F/D= 63.93

i.e. F = 7.99 (m)

and A = 0.00196 (m^2)

and T = 4.25 mins

(see graph of log H/Ho v Time.)

hence, I **9.6E-07** m/s

i.e., k = 9.6×10^{-7} m/s

Causeway Geotech Ltd

VARIABLE HEAD PERMEABILITY TEST (STANDPIPE PIEZOMETER)

CONTRACT: Carrick Landfill BOREHOLE No.: BH03 TEST No.: 1

DATE: 5-Nov-12

TYPE OF TEST: *Rising* HEAD

Diameter of standpipe (d):	*50*	(mm)	
Height of TOP of standpipe above ground level:	*0.45*	(m)	(use -ve values if BELOW g.l.)
Depth to centre of piezo. tip below ground level (m):	*NA*	(m)	
Depth to top of filter below ground level (m):	*3.80*	(m)	
Depth to bottom of filter below ground level (m):	*6.00*	(m)	
Diameter of filter (D):	*125*	(mm)	
Standing ground water level SWL (mbgl):	*0.45*	(m) on:	5-Nov-12

DATUM:All depths to water level measured from top of casing. i.e.SWL 0.90 m below datum.

TIME ELAPSED (mins)	WATER LEVEL* (m)	HEAD H (m)	HEAD RATIO H/Ho
0	1.5	0.6	1.0000
0.5	1.2	0.3	0.5000
1	1.11	0.21	0.3500
1.5	1.03	0.13	0.2167
2	0.99	0.09	0.1500
2.5	0.92	0.02	0.0333
3	0.88	-0.02	-0.0333
3.5	0.84	-0.06	-0.1000
4	0.82	-0.08	-0.1333
4.5	0.79	-0.11	-0.1833
5	0.77	-0.13	-0.2167
6	0.73	-0.17	-0.2833
7	0.7	-0.2	-0.3333
8	0.68	-0.22	-0.3667
9	0.66	-0.24	-0.4000
10	0.63	-0.27	-0.4500
12	0.61	-0.29	-0.4833
14	0.59	-0.31	-0.5167
16	0.57	-0.33	-0.5500
18	0.56	-0.34	-0.5667
20	0.56	-0.34	-0.5667
22	0.55	-0.35	-0.5833
24	0.55	-0.35	-0.5833

CALCULATION OF PERMEABILITY OF SOIL:

Employing Hvorslev formula: k = A/FT

where:

k is the permeability of soil
A is the cross-section area of standpipe
F is the intake factor (see below)
T is the basic time lag factor

Values of intake factors (F/D) for various cylindrical intake zones of length to diameter ratio (L/D) are given in BS 5930:1999; also Dunn and Razouki formula:

F/D = 2.32*PI*(L/D)/loge[1.1*(L/D)+{1+1.1*(L/D)^2}^0.5]

L/D ratio = 17.60 thus F/D= 35.30

i.e. F = 4.41 (m)

and A = 0.00196 (m^2)

and T = 0.95 mins

(see graph of log H/Ho v Time.)

hence, I **7.8E-06** m/s

i.e., k = **7.8×10^{-6}** m/s

Causeway Geotech Ltd

VARIABLE HEAD PERMEABILITY TEST (STANDPIPE PIEZOMETER)

CONTRACT: Carrick Landfill BOREHOLE No.: BH04 TEST No.: 1

DATE: 5-Nov-12

TYPE OF TEST: *Rising* HEAD

Diameter of standpipe (d):	*50*	(mm)
Height of TOP of standpipe above ground level:	*0.50*	(m) (use -ve values if BELOW g.l.)
Depth to centre of piezo. tip below ground level (m):	*NA*	(m)
Depth to top of filter below ground level (m):	*0.50*	(m)
Depth to bottom of filter below ground level (m):	*3.50*	(m)
Diameter of filter (D):	*125*	(mm)
Standing ground water level SWL (mbgl):	*2*	(m) on: 5-Nov-12

DATUM:All depths to water level measured from top of casing. i.e.SWL 2.50 m below datum.

TIME ELAPSED (mins)	WATER LEVEL* (m)	HEAD H (m)	HEAD RATIO H/Ho
0	2.8	0.3	1.0000
0.5	2.71	0.21	0.7000
1	2.71	0.21	0.7000
1.5	2.71	0.21	0.7000
2	2.71	0.21	0.7000
2.5	2.67	0.17	0.5667
3	2.64	0.14	0.4667
3.5	2.61	0.11	0.3667
4	2.58	0.08	0.2667
4.5	2.55	0.05	0.1667
5	2.51	0.01	0.0333
6	2.51	0.01	0.0333

CALCULATION OF PERMEABILITY OF SOIL:

Employing Hvorslev formula: k = A/FT

where:

k is the permeability of soil
A is the cross-section area of standpipe
F is the intake factor (see below)
T is the basic time lag factor

Values of intake factors (F/D) for various cylindrical intake zones of length to diameter ratio (L/D) are given in BS 5930:1999; also Dunn and Razouki formula:

F/D = 2.32*PI*(L/D)/loge[1.1*(L/D)+{1+1.1*(L/D)^2}^0.5]

L/D ratio = 24.00 thus F/D= 44.36

i.e. F = 5.54 (m)

and A = 0.00196 (m^2)

and T = 3.5 mins

(see graph of log H/Ho v Time.)

hence, I **1.7E-06** **m/s**

i.e., k = 1.7×10^{-6} m/s

Causeway Geotech Ltd

VARIABLE HEAD PERMEABILITY TEST (STANDPIPE PIEZOMETER)

CONTRACT: Carrick Landfill BOREHOLE No.: BH05 TEST No.: 1

DATE: 5-Nov-12

TYPE OF TEST:	*Rising*	HEAD
Diameter of standpipe (d):	*50*	(mm)
Height of TOP of standpipe above ground level:	*0.43*	(m) (use -ve values if BELOW g.l.)
Depth to centre of piezo. tip below ground level (m):	*NA*	(m)
Depth to top of filter below ground level (m):	*0.50*	(m)
Depth to bottom of filter below ground level (m):	*3.50*	(m)
Diameter of filter (D):	*125*	(mm)
Standing ground water level SWL (mbgl):	*2.2*	(m) on: 5-Nov-12

DATUM:All depths to water level measured from top of casing. i.e.SWL 2.63 m below datum.

TIME ELAPSED (mins)	WATER LEVEL* (m)	HEAD H (m)	HEAD RATIO H/Ho
0	3.2	0.57	1.0000
0.5	2.95	0.32	0.5614
1	2.95	0.32	0.5614
1.5	2.93	0.3	0.5263
2	2.9	0.27	0.4737
2.5	2.88	0.25	0.4386
3	2.85	0.22	0.3860
3.5	2.83	0.2	0.3509
4	2.8	0.17	0.2982
4.5	2.76	0.13	0.2281
5	2.75	0.12	0.2105
6	2.7	0.07	0.1228
7	2.66	0.03	0.0526
8	2.62	-0.01	-0.0175
9	2.59	-0.04	-0.0702
10	2.53	-0.1	-0.1754
12	2.48	-0.15	-0.2632
14	2.42	-0.21	-0.3684
16	2.38	-0.25	-0.4386
18	2.34	-0.29	-0.5088
20	2.33	-0.3	-0.5263
22	2.31	-0.32	-0.5614
24	2.29	-0.34	-0.5965
26	2.29	-0.34	-0.5965
28	2.29	-0.34	-0.5965
30	2.28	-0.35	-0.6140

CALCULATION OF PERMEABILITY OF SOIL:

Employing Hvorslev formula: k = A/FT

where:

k is the permeability of soil
A is the cross-section area of standpipe
F is the intake factor (see below)
T is the basic time lag factor

Values of intake factors (F/D) for various cylindrical intake zones of length to diameter ratio (L/D) are given in BS 5930:1999; also Dunn and Razouki formula:

F/D = 2.32*PI*(L/D)/loge{1.1*(L/D)+{1+1.1*(L/D)^2}^0.5]

L/D ratio = 24.00 thus F/D= 44.36

i.e. F = 5.54 (m)

and A = 0.00196 (m^2)

and T = 3.25 mins

(see graph of log H/Ho v Time.)

hence, I **1.8E-06** **m/s**

i.e., k = 1.8×10^{-6} m/s

Causeway Geotech Ltd

VARIABLE HEAD PERMEABILITY TEST (STANDPIPE PIEZOMETER)

CONTRACT: Carrick Landfill BOREHOLE No.: BH06 TEST No.: 1

DATE: 5-Nov-12

TYPE OF TEST: *Rising* HEAD

Diameter of standpipe (d):	*50*	(mm)	
Height of TOP of standpipe above ground level:	*0.48*	(m)	(use -ve values if BELOW g.l.)
Depth to centre of piezo. tip below ground level (m):	*NA*	(m)	
Depth to top of filter below ground level (m):	*0.50*	(m)	
Depth to bottom of filter below ground level (m):	*2.50*	(m)	
Diameter of filter (D):	*125*	(mm)	
Standing ground water level SWL (mbgl):	*2.34*	(m) on:	4.2.2011

DATUM:All depths to water level measured from top of casing. i.e.SWL 2.82 m below datur

TIME ELAPSED (mins)	WATER LEVEL* (m)	HEAD H (m)	HEAD RATIO H/Ho
0	2.98	0.16	1.0000
0.5	2.85	0.03	0.1875
1	2.85	0.03	0.1875
1.5	2.85	0.03	0.1875
2	2.85	0.03	0.1875
2.5	2.85	0.03	0.1875
3	2.84	0.02	0.1250
3.5	2.84	0.02	0.1250
4	2.84	0.02	0.1250
4.5	2.84	0.02	0.1250
5	2.84	0.02	0.1250
6	2.84	0.02	0.1250
7	2.83	0.01	0.0625
8	2.83	0.01	0.0625
9	2.83	0.01	0.0625
10	2.83	0.01	0.0625
12	2.82	0	0.0000
14	2.82	0	0.0000

CALCULATION OF PERMEABILITY OF SOIL:

Employing Hvorslev formula: k = A/FT

where:

k is the permeability of soil
A is the cross-section area of standpipe
F is the intake factor (see below)
T is the basic time lag factor

Values of intake factors (F/D) for various cylindrical intake zones of length to diameter ratio (L/D) are given in BS 5930:1999; also Dunn and Razouki formula:

F/D = 2.32*PI*(L/D)/loge[1.1*(L/D)+{1+1.1*(L/D)^2}^0.5]

L/D ratio = 16.00 thus F/D= 32.96

i.e. F = 4.12 (m)

and A = 0.00196 (m^2)

and T = 0.3 mins

(see graph of log H/Ho v Time.)

hence, I **2.6E-05** m/s

i.e., k = [illegible] m/s

Causeway Geotech Ltd

APPENDIX D

Laboratory test results

Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

Login Batch No					215900					
Chemtest LIMS ID					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
Sample ID					BH06	BH06	BH01	BH01	BH02	BH02
Sample No										
Sampling Date					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Depth					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	7.4	6.9	5.6	6.6	5.6	6.5
2300	Cyanide (free)	57125	mg kg-1	M	< 0.5	< 0.5	< 0.5	< 0.5	0.6	< 0.5
	Cyanide (total)	57125	mg kg-1	M	< 0.5	< 0.5	1.0	< 0.5	0.5	0.5
	Thiocyanate	302045	mg kg-1	M	< 5.0	< 5.0	37	< 5.0	42	< 5.0
2325	Sulfide (Easily Liberatable)	18496258	mg kg-1	M	1.4	1.7	3.7	6.7	3.2	4.4
2625	Organic matter		%	M	< 0.40	< 0.40	16	0.50	38	1.7
2120	Boron (hot water soluble)	7440428	mg kg-1	M	<0.4	<0.4	<0.4	<0.4	0.8	<0.4
2490	Chromium (hexavalent)	18540299	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2430	Sulfate (total) as SO4	14808798	%	M	<0.01	0.03	0.56	0.04	2.1	0.25
2450	Arsenic	7440382	mg kg-1	M	4.4	2.8	4.5	9.5	2.4	5.1
	Cadmium	7440439	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.12	<0.10
	Chromium	7440473	mg kg-1	M	16	19	47	21	7.1	13
	Copper	7440508	mg kg-1	M	31	32	30	40	20	20
	Mercury	7439976	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Nickel	7440020	mg kg-1	M	23	25	37	42	12	17
	Lead	7439921	mg kg-1	M	17	15	29	16	10	10
	Selenium	7782492	mg kg-1	M	<0.20	<0.20	0.42	<0.20	3.8	0.28
	Zinc	7440666	mg kg-1	M	79	90	110	140	35	68
2675	TPH aliphatic >C5-C6		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C12-C16		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

* Accreditation status

This report should be interpreted in conjuction with the notes on the accompanying cover page.

Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

Login Batch No					215900					
Chemtest LIMS ID					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
Sample ID					BH02	BH03	BH03	BH03	BH04	BH04
Sample No										
Sampling Date					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Depth					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
Matrix					*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*						
2010	pH			M	6.7	7.2	7.4	6.7	7.6	7.6
2300	Cyanide (free)	57125	mg kg-1	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Cyanide (total)	57125	mg kg-1	M	< 0.5	0.9	1.3	< 0.5	1.4	2.3
	Thiocyanate	302045	mg kg-1	M	< 5.0	14	13	< 5.0	< 5.0	5.0
2325	Sulfide (Easily Liberatable)	18496258	mg kg-1	M	1.5	2.2	2.6	0.88	3.2	42
2625	Organic matter		%	M	0.56	33	29	1.1	21	13
2120	Boron (hot water soluble)	7440428	mg kg-1	M	<0.4	2.6	2.0	<0.4	0.8	1.5
2490	Chromium (hexavalent)	18540299	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2430	Sulfate (total) as SO4	14808798	%	M	0.24	0.48	0.52	0.05	0.42	0.56
2450	Arsenic	7440382	mg kg-1	M	16	36	36	17	21	38
	Cadmium	7440439	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	2.7	3.0
	Chromium	7440473	mg kg-1	M	18	46	47	22	190	100
	Copper	7440508	mg kg-1	M	35	190	210	49	340	240
	Mercury	7439976	mg kg-1	M	0.11	1.9	1.6	0.41	0.87	0.53
	Nickel	7440020	mg kg-1	M	15	70	70	18	60	84
	Lead	7439921	mg kg-1	M	26	280	310	41	510	620
	Selenium	7782492	mg kg-1	M	<0.20	0.98	0.78	<0.20	0.90	1.1
	Zinc	7440666	mg kg-1	M	92	850	570	140	1100	1200
2675	TPH aliphatic >C5-C6		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C12-C16		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

* Accreditation status

This report should be interpreted in conjuction with the notes on the accompanying cover page.

Causeway Geotech Ltd.
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Co. Antrim
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LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

Login Batch No				215900					
Chemtest LIMS ID				AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
Sample ID				BH04	BH04	BH05	BH05	BH05	BH06
Sample No									
Sampling Date				Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Depth				3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
Matrix				*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
SOP↓	Determinand↓	CAS No↓	Units↓	*					
2010	pH			M	6.8	6.8	7.2	6.8	6.8	7.7
2300	Cyanide (free)	57125	mg kg-1	M	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
	Cyanide (total)	57125	mg kg-1	M	< 0.5	< 0.5	1.1	< 0.5	< 0.5	0.9
	Thiocyanate	302045	mg kg-1	M	< 5.0	< 5.0	9.3	< 5.0	< 5.0	11
2325	Sulfide (Easily Liberatable)	18496258	mg kg-1	M	20	20	8.9	2.5	4.5	3.6
2625	Organic matter		%	M	0.47	0.41	9.1	0.88	< 0.40	28
2120	Boron (hot water soluble)	7440428	mg kg-1	M	<0.4	<0.4	0.6	<0.4	<0.4	2.1
2490	Chromium (hexavalent)	18540299	mg kg-1	N	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
2430	Sulfate (total) as SO4	14808798	%	M	0.06	0.20	0.33	0.15	<0.01	0.37
2450	Arsenic	7440382	mg kg-1	M	8.3	17	27	20	10	49
	Cadmium	7440439	mg kg-1	M	<0.10	<0.10	7.0	0.21	<0.10	<0.10
	Chromium	7440473	mg kg-1	M	30	26	170	30	25	75
	Copper	7440508	mg kg-1	M	49	58	540	71	57	310
	Mercury	7439976	mg kg-1	M	<0.10	<0.10	0.21	0.46	<0.10	8.3
	Nickel	7440020	mg kg-1	M	27	38	81	20	28	92
	Lead	7439921	mg kg-1	M	40	26	590	59	44	1000
	Selenium	7782492	mg kg-1	M	<0.20	<0.20	0.69	<0.20	<0.20	1.5
	Zinc	7440666	mg kg-1	M	140	170	2600	250	150	1300
2675	TPH aliphatic >C5-C6		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C6-C8		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aliphatic >C10-C12		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C12-C16		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

* Accreditation status

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Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C16-C21		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C21-C35		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C35-C44		mg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C5-C7		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C12-C16		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	1.1
	TPH aromatic >C16-C21		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	5.8
	TPH aromatic >C21-C35		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	8.4
	TPH aromatic >C35-C44		mg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	Total Petroleum Hydrocarbons		mg kg-1	N	< 10	< 10	< 10	< 10	< 10	15
2760	Methyl tert-butyl ether	1634044	µg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Chloromethane	74873	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	Vinyl chloride	75014	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	Bromomethane	74839	µg kg-1	U	< 20	< 20		< 20	< 20	
	Chloroethane	75003	µg kg-1	U	< 2.0	< 2.0		< 2.0	< 2.0	
	Trichlorofluoromethane	75694	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,1-Dichloroethene	75354	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Dichloromethane	75092	µg kg-1	N	ne	ne		ne	ne	
	trans-1,2-Dichloroethene	156605	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,1-Dichloroethane	75343	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	cis-1,2-Dichloroethene	156592	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

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						215900					
						AH93075	AH93076	AH93077	AH93078	AH93079	AH93086
						BH02	BH03	BH03	BH03	BH04	BH04
						Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
						3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
						SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C16-C21			mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C21-C35			mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C35-C44			mg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C5-C7			mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8			mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10			mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12			mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C12-C16			mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C16-C21			mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C21-C35			mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C35-C44			mg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	Total Petroleum Hydrocarbons			mg kg-1	N	< 10	< 10	< 10	< 10	< 10	< 10
2760	Methyl tert-butyl ether	1634044		µg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718		µg kg-1	U		< 1.0			< 1.0	< 1.0
	Chloromethane	74873		µg kg-1	M		< 1.0			< 1.0	< 1.0
	Vinyl chloride	75014		µg kg-1	M		< 1.0			< 1.0	< 1.0
	Bromomethane	74839		µg kg-1	U		< 20			< 20	< 20
	Chloroethane	75003		µg kg-1	U		< 2.0			< 2.0	< 2.0
	Trichlorofluoromethane	75694		µg kg-1	U		< 1.0			< 1.0	< 1.0
	1,1-Dichloroethene	75354		µg kg-1	U		< 1.0			< 1.0	< 1.0
	Dichloromethane	75092		µg kg-1	N		ne			ne	ne
	trans-1,2-Dichloroethene	156605		µg kg-1	U		< 1.0			< 1.0	< 1.0
	1,1-Dichloroethane	75343		µg kg-1	M		< 1.0			< 1.0	< 1.0
	cis-1,2-Dichloroethene	156592		µg kg-1	M		< 1.0			< 1.0	< 1.0

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					215900					
					AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2675	TPH aliphatic >C16-C21		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C21-C35		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aliphatic >C35-C44		mg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C5-C7		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C7-C8		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C8-C10		mg kg-1	N	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	TPH aromatic >C10-C12		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C12-C16		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C16-C21		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C21-C35		mg kg-1	M	< 1	< 1	< 1	< 1	< 1	< 1
	TPH aromatic >C35-C44		mg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	Total Petroleum Hydrocarbons		mg kg-1	N	< 10	< 10	< 10	< 10	< 10	< 10
2760	Methyl tert-butyl ether	1634044	µg kg-1	N	< 1	< 1	< 1	< 1	< 1	< 1
	Dichlorodifluoromethane	75718	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Chloromethane	74873	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Vinyl chloride	75014	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Bromomethane	74839	µg kg-1	U	< 20		< 20	< 20	< 20	< 20
	Chloroethane	75003	µg kg-1	U	< 2.0		< 2.0	< 2.0	< 2.0	< 2.0
	Trichlorofluoromethane	75694	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,1-Dichloroethene	75354	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Dichloromethane	75092	µg kg-1	N	ne		ne	ne	ne	ne
	trans-1,2-Dichloroethene	156605	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,1-Dichloroethane	75343	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	cis-1,2-Dichloroethene	156592	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0

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FAO Dr Paul Dunlop

LABORATORY TEST REPORT

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12-407 - Carrick Land Fill, Donegal

Chemtest
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14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromochloromethane	74975	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Trichloromethane	67663	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	1,1,1-Trichloroethane	71556	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	Tetrachloromethane	56235	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	1,1-Dichloropropene	563586	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Benzene	71432	µg kg-1	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,2-Dichloroethane	107062	µg kg-1	U	< 2.0	< 2.0		< 2.0	< 2.0	
	Trichloroethene	79016	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,2-Dichloropropane	78875	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Dibromomethane	74953	µg kg-1	U	< 10	< 10		< 10	< 10	
	Bromodichloromethane	75274	µg kg-1	U	< 5.0	< 5.0		< 5.0	< 5.0	
	cis-1,3-Dichloropropene	10061015	µg kg-1	N	< 10	< 10		< 10	< 10	
	Toluene	108883	µg kg-1	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	trans-1,3-Dichloropropene	10061026	µg kg-1	N	< 10	< 10		< 10	< 10	
	1,1,2-Trichloroethane	79005	µg kg-1	U	< 10	< 10		< 10	< 10	
	Tetrachloroethene	127184	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	1,3-Dichloropropane	142289	µg kg-1	U	< 2.0	< 2.0		< 2.0	< 2.0	
	Dibromochloromethane	124481	µg kg-1	U	< 10	< 10		< 10	< 10	
	1,2-Dibromoethane	106934	µg kg-1	U	< 5.0	< 5.0		< 5.0	< 5.0	
	Chlorobenzene	108907	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	1,1,1,2-Tetrachloroethane	630206	µg kg-1	M	< 2.0	< 2.0		< 2.0	< 2.0	
	Ethylbenzene	100414	µg kg-1	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	m- & p-Xylene	1330207	µg kg-1	U	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	o-Xylene	95476	µg kg-1	U	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

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					215900					
					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
					BH02	BH03	BH03	BH03	BH04	BH04
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromochloromethane	74975	µg kg⁻¹	U		< 1.0			< 1.0	< 1.0
	Trichloromethane	67663	µg kg⁻¹	M		< 1.0			< 1.0	< 1.0
	1,1,1-Trichloroethane	71556	µg kg⁻¹	M		< 1.0			< 1.0	< 1.0
	Tetrachloromethane	56235	µg kg⁻¹	M		< 1.0			< 1.0	< 1.0
	1,1-Dichloropropene	563586	µg kg⁻¹	U		< 1.0			< 1.0	< 1.0
	Benzene	71432	µg kg⁻¹	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,2-Dichloroethane	107062	µg kg⁻¹	U		< 2.0			< 2.0	< 2.0
	Trichloroethene	79016	µg kg⁻¹	U		< 1.0			< 1.0	< 1.0
	1,2-Dichloropropane	78875	µg kg⁻¹	U		< 1.0			< 1.0	< 1.0
	Dibromomethane	74953	µg kg⁻¹	U		< 10			< 10	< 10
	Bromodichloromethane	75274	µg kg⁻¹	U		< 5.0			< 5.0	< 5.0
	cis-1,3-Dichloropropene	10061015	µg kg⁻¹	N		< 10			< 10	< 10
	Toluene	108883	µg kg⁻¹	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	trans-1,3-Dichloropropene	10061026	µg kg⁻¹	N		< 10			< 10	< 10
	1,1,2-Trichloroethane	79005	µg kg⁻¹	U		< 10			< 10	< 10
	Tetrachloroethene	127184	µg kg⁻¹	M		< 1.0			< 1.0	< 1.0
	1,3-Dichloropropane	142289	µg kg⁻¹	U		< 2.0			< 2.0	< 2.0
	Dibromochloromethane	124481	µg kg⁻¹	U		< 10			< 10	< 10
	1,2-Dibromoethane	106934	µg kg⁻¹	U		< 5.0			< 5.0	< 5.0
	Chlorobenzene	108907	µg kg⁻¹	M		< 1.0			< 1.0	< 1.0
	1,1,1,2-Tetrachloroethane	630206	µg kg⁻¹	M		< 2.0			< 2.0	< 2.0
	Ethylbenzene	100414	µg kg⁻¹	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.7
	m- & p-Xylene	1330207	µg kg⁻¹	U	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.6
	o-Xylene	95476	µg kg⁻¹	U	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.6

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					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Bromochloromethane	74975	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Trichloromethane	67663	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,1,1-Trichloroethane	71556	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Tetrachloromethane	56235	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,1-Dichloropropene	563586	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Benzene	71432	µg kg-1	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,2-Dichloroethane	107062	µg kg-1	U	< 2.0		< 2.0	< 2.0	< 2.0	< 2.0
	Trichloroethene	79016	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,2-Dichloropropane	78875	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Dibromomethane	74953	µg kg-1	U	< 10		< 10	< 10	< 10	< 10
	Bromodichloromethane	75274	µg kg-1	U	< 5.0		< 5.0	< 5.0	< 5.0	< 5.0
	cis-1,3-Dichloropropene	10061015	µg kg-1	N	< 10		< 10	< 10	< 10	< 10
	Toluene	108883	µg kg-1	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	trans-1,3-Dichloropropene	10061026	µg kg-1	N	< 10		< 10	< 10	< 10	< 10
	1,1,2-Trichloroethane	79005	µg kg-1	U	< 10		< 10	< 10	< 10	< 10
	Tetrachloroethene	127184	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,3-Dichloropropane	142289	µg kg-1	U	< 2.0		< 2.0	< 2.0	< 2.0	< 2.0
	Dibromochloromethane	124481	µg kg-1	U	< 10		< 10	< 10	< 10	< 10
	1,2-Dibromoethane	106934	µg kg-1	U	< 5.0		< 5.0	< 5.0	< 5.0	< 5.0
	Chlorobenzene	108907	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,1,1,2-Tetrachloroethane	630206	µg kg-1	M	< 2.0		< 2.0	< 2.0	< 2.0	< 2.0
	Ethylbenzene	100414	µg kg-1	M	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	m- & p-Xylene	1330207	µg kg-1	U	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	o-Xylene	95476	µg kg-1	U	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

* Accreditation status

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Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Styrene	100425	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Tribromomethane	75252	µg kg-1	U	< 10	< 10		< 10	< 10	
	Isopropylbenzene	98828	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Bromobenzene	108861	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,2,3-Trichloropropane	96184	µg kg-1	N	< 50	< 50		< 50	< 50	
	n-Propylbenzene	103651	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	2-Chlorotoluene	95498	µg kg-1	M	< 1.0	< 1.0		< 1.0	< 1.0	
	1,2,4-Trimethylbenzene	95636	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	4-Chlorotoluene	106434	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	tert-Butylbenzene	98066	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,3,5-Trimethylbenzene	108678	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	sec-Butylbenzene	135988	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,3-Dichlorobenzene	541731	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	4-Isopropyltoluene	99876	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,4-Dichlorobenzene	106467	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	n-Butylbenzene	104518	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,2-Dichlorobenzene	95501	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	1,2-Dibromo-3-chloropropane	96128	µg kg-1	U	< 50	< 50		< 50	< 50	
	1,2,4-Trichlorobenzene	120821	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
	Hexachlorobutadiene	87683	µg kg-1	U	< 1.0	< 1.0		< 1.0	< 1.0	
2790	Phenol	108952	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	bis(2-Chloroethyl)ether	111444	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Chlorophenol	95578	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	1,3-Dichlorobenzene	541731	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

* Accreditation status

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Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

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received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
					BH02	BH03	BH03	BH03	BH04	BH04
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Styrene	100425	µg kg-1	U		< 1.0			< 1.0	< 1.0
	Tribromomethane	75252	µg kg-1	U		< 10			< 10	< 10
	Isopropylbenzene	98828	µg kg-1	U		< 1.0			< 1.0	< 1.0
	Bromobenzene	108861	µg kg-1	U		< 1.0			< 1.0	< 1.0
	1,2,3-Trichloropropane	96184	µg kg-1	N		< 50			< 50	< 50
	n-Propylbenzene	103651	µg kg-1	U		< 1.0			< 1.0	< 1.0
	2-Chlorotoluene	95498	µg kg-1	M		< 1.0			< 1.0	< 1.0
	1,2,4-Trimethylbenzene	95636	µg kg-1	U		< 1.0			< 1.0	5.5
	4-Chlorotoluene	106434	µg kg-1	U		< 1.0			< 1.0	< 1.0
	tert-Butylbenzene	98066	µg kg-1	U		< 1.0			< 1.0	< 1.0
	1,3,5-Trimethylbenzene	108678	µg kg-1	U		< 1.0			< 1.0	11
	sec-Butylbenzene	135988	µg kg-1	U		< 1.0			< 1.0	< 1.0
	1,3-Dichlorobenzene	541731	µg kg-1	U		< 1.0			< 1.0	< 1.0
	4-Isopropyltoluene	99876	µg kg-1	U		< 1.0			< 1.0	5.3
	1,4-Dichlorobenzene	106467	µg kg-1	U		< 1.0			< 1.0	< 1.0
	n-Butylbenzene	104518	µg kg-1	U		< 1.0			< 1.0	3.5
	1,2-Dichlorobenzene	95501	µg kg-1	U		< 1.0			< 1.0	< 1.0
	1,2-Dibromo-3-chloropropane	96128	µg kg-1	U		< 50			< 50	< 50
	1,2,4-Trichlorobenzene	120821	µg kg-1	U		< 1.0			< 1.0	< 1.0
	Hexachlorobutadiene	87683	µg kg-1	U		< 1.0			< 1.0	< 1.0
2790	Phenol	108952	mg kg-1	N		<0.5			<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg-1	N		<0.5			<0.5	<0.5
	2-Chlorophenol	95578	mg kg-1	N		<0.5			<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg-1	N		<0.5			<0.5	<0.5

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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LABORATORY TEST REPORT

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12-407 - Carrick Land Fill, Donegal

Chemtest
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14 November 2012

					215900					
					AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2760	Styrene	100425	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Tribromomethane	75252	µg kg-1	U	< 10		< 10	< 10	< 10	< 10
	Isopropylbenzene	98828	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Bromobenzene	108861	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,2,3-Trichloropropane	96184	µg kg-1	N	< 50		< 50	< 50	< 50	< 50
	n-Propylbenzene	103651	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	2-Chlorotoluene	95498	µg kg-1	M	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,2,4-Trimethylbenzene	95636	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	4-Chlorotoluene	106434	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	tert-Butylbenzene	98066	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,3,5-Trimethylbenzene	108678	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	sec-Butylbenzene	135988	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,3-Dichlorobenzene	541731	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	4-Isopropyltoluene	99876	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,4-Dichlorobenzene	106467	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	n-Butylbenzene	104518	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,2-Dichlorobenzene	95501	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	1,2-Dibromo-3-chloropropane	96128	µg kg-1	U	< 50		< 50	< 50	< 50	< 50
	1,2,4-Trichlorobenzene	120821	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
	Hexachlorobutadiene	87683	µg kg-1	U	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
2790	Phenol	108952	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethyl)ether	111444	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Chlorophenol	95578	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	1,3-Dichlorobenzene	541731	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

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received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	1,4-Dichlorobenzene	106467	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	1,2-Dichlorobenzene	95501	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Methylphenol	95487	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	bis(2-Chloroisopropyl)ether	108601	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Methylphenol	106445	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	N-Nitrosodi-n-propylamine	621647	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Hexachloroethane	67721	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Nitrobenzene	98953	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Isophorone	78591	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Nitrophenol	88755	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,4-Dimethylphenol	105679	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	bis(2-Chloroethoxy)methane	111911	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,4-Dichlorophenol	120832	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	1,2,4-Trichlorobenzene	120821	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Naphthalene	91203	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Chloroaniline	106478	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Hexachlorobutadiene	87683	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Chloro-3-methylphenol	59507	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Methylnaphthalene	91576	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Hexachlorocyclopentadiene	77474	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,4,6-Trichlorophenol	88062	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,4,5-Trichlorophenol	95954	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Chloronaphthalene	91587	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Nitroaniline	88744	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

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BT53 7QL

FAO Dr Paul Dunlop

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12-407 - Carrick Land Fill, Donegal

Chemtest
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Report Date
14 November 2012

					215900					
					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
					BH02	BH03	BH03	BH03	BH04	BH04
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	1,4-Dichlorobenzene	106467	mg kg-1	N		<0.5			<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg-1	N		<0.5			<0.5	<0.5
	2-Methylphenol	95487	mg kg-1	N		<0.5			<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg-1	N		<0.5			<0.5	<0.5
	4-Methylphenol	106445	mg kg-1	N		<0.5			<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg-1	N		<0.5			<0.5	<0.5
	Hexachloroethane	67721	mg kg-1	N		<0.5			<0.5	<0.5
	Nitrobenzene	98953	mg kg-1	N		<0.5			<0.5	<0.5
	Isophorone	78591	mg kg-1	N		<0.5			<0.5	<0.5
	2-Nitrophenol	88755	mg kg-1	N		<0.5			<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg-1	N		<0.5			<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg-1	N		<0.5			<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg-1	N		<0.5			<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg-1	N		<0.5			<0.5	<0.5
	Naphthalene	91203	mg kg-1	N		<0.5			<0.5	<0.5
	4-Chloroaniline	106478	mg kg-1	N		<0.5			<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg-1	N		<0.5			<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg-1	N		<0.5			<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg-1	N		<0.5			<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg-1	N		<0.5			<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg-1	N		<0.5			<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg-1	N		<0.5			<0.5	<0.5
	2-Chloronaphthalene	91587	mg kg-1	N		<0.5			<0.5	<0.5
	2-Nitroaniline	88744	mg kg-1	N		<0.5			<0.5	<0.5

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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					215900					
					AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	1,4-Dichlorobenzene	106467	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	1,2-Dichlorobenzene	95501	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Methylphenol	95487	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroisopropyl)ether	108601	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Methylphenol	106445	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	N-Nitrosodi-n-propylamine	621647	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Hexachloroethane	67721	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Nitrobenzene	98953	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Isophorone	78591	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Nitrophenol	88755	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,4-Dimethylphenol	105679	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	bis(2-Chloroethoxy)methane	111911	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,4-Dichlorophenol	120832	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	1,2,4-Trichlorobenzene	120821	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Naphthalene	91203	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Chloroaniline	106478	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Hexachlorobutadiene	87683	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Chloro-3-methylphenol	59507	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Methylnaphthalene	91576	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Hexachlorocyclopentadiene	77474	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,4,6-Trichlorophenol	88062	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,4,5-Trichlorophenol	95954	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Chloronaphthalene	91587	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Nitroaniline	88744	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

* Accreditation status

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Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Dimethylphthalate	131113	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,6-Dinitrotoluene	606202	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Acenaphthylene	208968	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	3-Nitroaniline	99092	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Acenaphthene	83329	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Dibenzofuran	132649	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,4-Dinitrotoluene	121142	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Diethylphthalate	84662	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Fluorene	86737	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Chlorophenylphenylether	7005723	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Nitroaniline	100016	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2-Methyl-4,6-dinitrophenol	534521	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Azobenzene	103333	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Bromophenylphenylether	101553	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Hexachlorobenzene	118741	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Pentachlorophenol	87865	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Phenanthrene	85018	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Anthracene	120127	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Carbazole	86748	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Di-n-butylphthalate	84742	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Fluoranthene	206440	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Pyrene	129000	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Butylbenzylphthalate	85687	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Benzo[a]anthracene	56553	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

* Accreditation status

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Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
					BH02	BH03	BH03	BH03	BH04	BH04
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Dimethylphthalate	131113	mg kg-1	N		<0.5			<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg-1	N		<0.5			<0.5	<0.5
	Acenaphthylene	208968	mg kg-1	N		<0.5			<0.5	<0.5
	3-Nitroaniline	99092	mg kg-1	N		<0.5			<0.5	<0.5
	Acenaphthene	83329	mg kg-1	N		<0.5			<0.5	<0.5
	Dibenzofuran	132649	mg kg-1	N		<0.5			<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg-1	N		<0.5			<0.5	<0.5
	Diethylphthalate	84662	mg kg-1	N		<0.5			<0.5	<0.5
	Fluorene	86737	mg kg-1	N		<0.5			<0.5	<0.5
	4-Chlorophenylphenylether	7005723	mg kg-1	N		<0.5			<0.5	<0.5
	4-Nitroaniline	100016	mg kg-1	N		<0.5			<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg-1	N		<0.5			<0.5	<0.5
	Azobenzene	103333	mg kg-1	N		<0.5			<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg-1	N		<0.5			<0.5	<0.5
	Hexachlorobenzene	118741	mg kg-1	N		<0.5			<0.5	<0.5
	Pentachlorophenol	87865	mg kg-1	N		<0.5			<0.5	<0.5
	Phenanthrene	85018	mg kg-1	N		<0.5			<0.5	<0.5
	Anthracene	120127	mg kg-1	N		<0.5			<0.5	<0.5
	Carbazole	86748	mg kg-1	N		<0.5			<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg-1	N		<0.5			<0.5	<0.5
	Fluoranthene	206440	mg kg-1	N		<0.5			<0.5	<0.5
	Pyrene	129000	mg kg-1	N		<0.5			<0.5	<0.5
	Butylbenzylphthalate	85687	mg kg-1	N		<0.5			<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg-1	N		<0.5			<0.5	<0.5

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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LABORATORY TEST REPORT

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12-407 - Carrick Land Fill, Donegal

Chemtest
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					215900					
					AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Dimethylphthalate	131113	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,6-Dinitrotoluene	606202	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Acenaphthylene	208968	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	3-Nitroaniline	99092	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Acenaphthene	83329	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Dibenzofuran	132649	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrotoluene	121142	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Diethylphthalate	84662	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Fluorene	86737	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Chlorophenylphenylether	7005723	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Nitroaniline	100016	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2-Methyl-4,6-dinitrophenol	534521	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Azobenzene	103333	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Bromophenylphenylether	101553	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Hexachlorobenzene	118741	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Pentachlorophenol	87865	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Phenanthrene	85018	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Anthracene	120127	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Carbazole	86748	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Di-n-butylphthalate	84742	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Fluoranthene	206440	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Pyrene	129000	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Butylbenzylphthalate	85687	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Benzo[a]anthracene	56553	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

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received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Chrysene	218019	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	bis(2-Ethylhexyl)phthalate	117817	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Di-n-octylphthalate	117840	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Benzo[b]fluoranthene	205992	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Benzo[k]fluoranthene	207089	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Benzo[a]pyrene	50328	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Dibenzo[a,h]anthracene	53703	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	Benzo[g,h,i]perylene	191242	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	2,4-Dinitrophenol	51285	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
	4-Nitrophenol	100027	mg kg-1	N	<0.5	<0.5		<0.5	<0.5	
2800	Naphthalene	91203	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Acenaphthylene	208968	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Acenaphthene	83329	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Fluorene	86737	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Phenanthrene	85018	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Anthracene	120127	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Fluoranthene	206440	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Pyrene	129000	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[a]anthracene	56553	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Chrysene	218019	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[b]fluoranthene	205992	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[k]fluoranthene	207089	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[a]pyrene	50328	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

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Balnamore, Ballymoney
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BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

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received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
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					215900					
					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
					BH02	BH03	BH03	BH03	BH04	BH04
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Chrysene	218019	mg kg-1	N		<0.5			<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	mg kg-1	N		<0.5			<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg-1	N		<0.5			<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg-1	N		<0.5			<0.5	<0.5
	Benzo[k]fluoranthene	207089	mg kg-1	N		<0.5			<0.5	<0.5
	Benzo[a]pyrene	50328	mg kg-1	N		<0.5			<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	N		<0.5			<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg-1	N		<0.5			<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg-1	N		<0.5			<0.5	<0.5
	2,4-Dinitrophenol	51285	mg kg-1	N		<0.5			<0.5	<0.5
	4-Nitrophenol	100027	mg kg-1	N		<0.5			<0.5	<0.5
2800	Naphthalene	91203	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	0.27
	Acenaphthylene	208968	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Acenaphthene	83329	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Fluorene	86737	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Phenanthrene	85018	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.23	0.18
	Anthracene	120127	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Fluoranthene	206440	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.33	0.14
	Pyrene	129000	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.31	0.21
	Benzo[a]anthracene	56553	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.23	0.11
	Chrysene	218019	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.27	0.15
	Benzo[b]fluoranthene	205992	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.4	0.25
	Benzo[k]fluoranthene	207089	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	0.12	<0.10
	Benzo[a]pyrene	50328	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.29	0.18

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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					215900					
					AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2790	Chrysene	218019	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	bis(2-Ethylhexyl)phthalate	117817	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Di-n-octylphthalate	117840	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Benzo[b]fluoranthene	205992	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Benzo[k]fluoranthene	207089	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Benzo[a]pyrene	50328	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Dibenzo[a,h]anthracene	53703	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	Benzo[g,h,i]perylene	191242	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	2,4-Dinitrophenol	51285	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
	4-Nitrophenol	100027	mg kg-1	N	<0.5		<0.5	<0.5	<0.5	<0.5
2800	Naphthalene	91203	mg kg-1	M	<0.10	<0.10	0.15	<0.10	<0.10	<0.10
	Acenaphthylene	208968	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Acenaphthene	83329	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Fluorene	86737	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Phenanthrene	85018	mg kg-1	M	<0.10	<0.10	0.31	<0.10	<0.10	0.15
	Anthracene	120127	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Fluoranthene	206440	mg kg-1	M	<0.10	<0.10	0.31	<0.10	<0.10	<0.10
	Pyrene	129000	mg kg-1	M	<0.10	<0.10	0.27	<0.10	<0.10	0.12
	Benzo[a]anthracene	56553	mg kg-1	M	<0.10	<0.10	0.2	<0.10	<0.10	<0.10
	Chrysene	218019	mg kg-1	M	<0.10	<0.10	0.16	<0.10	<0.10	<0.10
	Benzo[b]fluoranthene	205992	mg kg-1	M	<0.10	<0.10	0.27	<0.10	<0.10	<0.10
	Benzo[k]fluoranthene	207089	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[a]pyrene	50328	mg kg-1	M	<0.10	<0.10	0.19	<0.10	<0.10	<0.10

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

* Accreditation status

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Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93069	AH93070	AH93071	AH93072	AH93073	AH93074
					BH06	BH06	BH01	BH01	BH02	BH02
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	0.20m	0.60m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2800	Dibenzo[a,h]anthracene	53703	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[g,h,i]perylene	191242	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Total (of 16) PAHs		mg kg-1	N	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2810	PCB 77	32598133	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 81	70362504	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 105	32598144	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 114	74472370	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 118	31508006	mg kg-1	N	<0.010	<0.010		<0.010	<0.010	
	PCB 123	65510443	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 126	57465288	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 156	38380084	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 157	69782907	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 167	52663726	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 169	32774166	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
	PCB 189	39635319	mg kg-1	N	<0.01	<0.01		<0.01	<0.01	
2920	Phenols (total)		mg kg-1	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

All tests undertaken between 07/11/2012 and 13/11/2012

* Accreditation status

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Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93075	AH93076	AH93077	AH93078	AH93079	AH93080
					BH02	BH03	BH03	BH03	BH04	BH04
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	1.00m	1.50m	2.00m	1.00m	2.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2800	Dibenzo[a,h]anthracene	53703	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.14	<0.10
	Benzo[g,h,i]perylene	191242	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	0.19	0.26
	Total (of 16) PAHs		mg kg-1	N	<2.0	<2.0	<2.0	<2.0	2.5	<2.0
2810	PCB 77	32598133	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 81	70362504	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 105	32598144	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 114	74472370	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 118	31508006	mg kg-1	N		<0.010			<0.010	<0.010
	PCB 123	65510443	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 126	57465288	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 156	38380084	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 157	69782907	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 167	52663726	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 169	32774166	mg kg-1	N		<0.01			<0.01	<0.01
	PCB 189	39635319	mg kg-1	N		<0.01			<0.01	<0.01
2920	Phenols (total)		mg kg-1	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

* Accreditation status

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Causeway Geotech Ltd.
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FAO Dr Paul Dunlop

LABORATORY TEST REPORT

Results of analysis of 18 samples
received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Chemtest
The right chemistry to deliver results

Report Date
14 November 2012

					215900					
					AH93081	AH93082	AH93083	AH93084	AH93085	AH93086
					BH04	BH04	BH05	BH05	BH05	BH06
					Not Provided	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
					3.00m	4.90m	1.00m	3.00m	5.00m	1.00m
					SOIL	*SOIL*	*SOIL*	*SOIL*	*SOIL*	*SOIL*
2800	Dibenzo[a,h]anthracene	53703	mg kg-1	N	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Indeno[1,2,3-cd]pyrene	193395	mg kg-1	M	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
	Benzo[g,h,i]perylene	191242	mg kg-1	M	<0.10	<0.10	0.13	<0.10	<0.10	<0.10
	Total (of 16) PAHs		mg kg-1	N	<2.0	<2.0	2	<2.0	<2.0	<2.0
2810	PCB 77	32598133	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 81	70362504	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 105	32598144	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 114	74472370	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 118	31508006	mg kg-1	N	<0.010		<0.010	<0.010	<0.010	<0.010
	PCB 123	65510443	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 126	57465288	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 156	38380084	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 157	69782907	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 167	52663726	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 169	32774166	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
	PCB 189	39635319	mg kg-1	N	<0.01		<0.01	<0.01	<0.01	<0.01
2920	Phenols (total)		mg kg-1	N	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3

[1]No sampling date was specified, stability times for this analyte may have been exceeded and these results may be compromised. The accreditation for these results remains unaffected.

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Causeway Geotech Ltd.
8 Drumahiskey Road
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BT53 7QL

FAO Dr Paul Dunlop

LABORATORY TEST REPORT
Asbestos in Soils

Chemtest

Results of analysis of 18 samples
received 7 November 2012
12-407 - Carrick Land Fill, Donegal

Report Date
14 November 2012

Login Batch No: 215900

Qualitative Results

				SOP 2190	
				ACM Type	Asbestos Identification
Chemtest ID	Sample ID	Sample Desc	Depth (m)		
AH93069		BH06	3.00	-	No Asbestos Detected
AH93070		BH06	4.90	-	No Asbestos Detected
AH93071		BH01	0.20	-	No Asbestos Detected
AH93072		BH01	0.60	-	No Asbestos Detected
AH93073		BH02	1.00	-	No Asbestos Detected
AH93074		BH02	2.00	-	No Asbestos Detected
AH93075		BH02	3.00	-	No Asbestos Detected
AH93076		BH03	1.00	-	No Asbestos Detected
AH93077		BH03	1.50	-	No Asbestos Detected
AH93078		BH03	2.00	-	No Asbestos Detected
AH93079		BH04	1.00	-	No Asbestos Detected
AH93080		BH04	2.00	-	No Asbestos Detected
AH93081		BH04	3.00	-	No Asbestos Detected
AH93082		BH04	4.90	-	No Asbestos Detected
AH93083		BH05	1.00	-	No Asbestos Detected
AH93084		BH05	3.00	-	No Asbestos Detected
AH93085		BH05	5.00	-	No Asbestos Detected
AH93086		BH06	1.00	-	No Asbestos Detected

The detection limit for this method is 0.001%

Signed

Steve McGrath
Asbestos Analyst

All tests undertaken between 14-Nov-2012 and 14-Nov-2012

Chemtest
LABORATORY TEST REPORT

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

Causeway Geotech Ltd.
8 Drumahiskey Road
Balnamore, Ballymoney
Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

Results of analysis of 6 samples received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Report Date 16 November 2012

Login Batch No	**215903**
Chemtest LIMS ID	AH93101 Soil: AH93098
Sample ID	BH03
Sample No	
Sampling Date	00:00:00
Depth	1.00m

Solid Waste Analysis

Determinand ↓	SOP ↓	*	Units ↓			Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Total Organic Carbon	2625	M	%		14	3	5	6
Loss on Ignition	2610	N	%		42.2			10
Total BTEX	2761	M	mg kg⁻¹		<0.005	6		
Total PCBs (7 congeners)	2811	N	mg kg⁻¹		<1	1		
TPH Total WAC	2670	M	mg kg⁻¹		< 10	500		
Total (of 17) PAHs	2700	N	mg kg⁻¹		<2	100		
pH	2010	M			7.3		>6	
Acid Neutralisation Capacity	2015		mol kg⁻¹		0.046			

Eluate Analysis

Determinand ↓	SOP ↓	*	2:1 Eluate mg l⁻¹	8:1 Eluate mg l⁻¹	2:1 Eluate mg kg⁻¹	Cumulative 10:1 Eluate mg kg⁻¹	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
Arsenic	1450	N	0.002	0.001	<0.05	<0.05	0.5	2	25
Barium		N	0.05	0.045	<0.5	<0.5	20	100	300
Cadmium	1450	N	<0.0005	<0.0005	<0.01	<0.01	0.04	1	5
Chromium	1450	N	0.003	<0.001	<0.05	<0.05	0.5	10	70
Copper	1450	N	0.005	0.003	<0.05	<0.05	2	50	100
Mercury	1450	N	<0.0005	<0.0005	<0.01	<0.01	0.01	0.2	2
Molybdenum	1450	N	0.004	0.005	<0.05	0.05	0.5	10	30
Nickel	1450	N	<0.001	<0.001	<0.05	<0.05	0.4	10	40
Lead	1450	N	<0.001	<0.001	<0.01	<0.01	0.5	10	50
Antimony	1450	N	0.002	0.001	<0.01	0.01	0.06	0.7	5
Selenium	1450	N	0.003	0.001	0.01	0.01	0.1	0.5	7
Zinc	1450	N	0.008	0.004	<0.5	<0.5	4	50	200
Chloride	1220	N	70	13	140	150	800	15000	25000
Fluoride	1220	N	0.19	0.13	<1	1.32	10	150	500
Sulfate	1220	N	110	34	220	367	1000	20000	50000
Total Dissolved Solids	1040	N	500	230	1000	2390	4000	60000	100000
Phenol Index	1920	N	<0.030	< 0.03	<0.5	<0.5	1		
Dissolved Organic Carbon	1610	N	58	19	116	204	500	800	1000

Solid Information

Dry mass of test portion/kg	0.175

Leach Test Information

Leachant volume 1st extract/l	0.153
Leachant volume 2nd extract/l	1.4
Eluate recovered from 1st extract/l	0.061

All tests undertaken between 7-Nov-2012 and 16-Nov-2012
* Accreditation status
This report should be interpreted in conjunction with the notes on the accompanying cover page.

Chemtest
LABORATORY TEST REPORT

CEN 10:1 CUMULATIVE TWO STAGE BATCH TEST

Causeway Geotech Ltd.
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Co. Antrim
BT53 7QL

FAO Dr Paul Dunlop

Results of analysis of 6 samples received 7 November 2012

12-407 - Carrick Land Fill, Donegal

Report Date
16 November 2012

Login Batch No	**215903**
Chemtest LIMS ID	AH93102 Soil: AH93099
Sample ID	BH04
Sample No	
Sampling Date	00:00:00
Depth	2.00m

Solid Waste Analysis

Determinand ↓	SOP ↓	*	Units ↓			Landfill Waste Acceptance Criteria Limits: Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Total Organic Carbon	2625	M	%		9	3	5	6
Loss on Ignition	2610	N	%		15.5			10
Total BTEX	2761	M	mg kg⁻¹		0.23	6		
Total PCBs (7 congeners)	2811	N	mg kg⁻¹		<1	1		
TPH Total WAC	2670	M	mg kg⁻¹		250	500		
Total (of 17) PAHs	2700	N	mg kg⁻¹		<2	100		
pH	2010	M			8		>6	
Acid Neutralisation Capacity	2015		mol kg⁻¹		0.015			

Eluate Analysis

Determinand ↓	SOP ↓	*	2:1 Eluate mg l⁻¹	8:1 Eluate mg l⁻¹	2:1 Eluate mg kg⁻¹	Cumulative 10:1 Eluate mg kg⁻¹	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
Arsenic	1450	N	0.001	<0.001	<0.05	<0.05	0.5	2	25
Barium		N	0.059	0.047	<0.5	<0.5	20	100	300
Cadmium	1450	N	<0.0005	<0.0005	<0.01	<0.01	0.04	1	5
Chromium	1450	N	<0.001	0.002	<0.05	<0.05	0.5	10	70
Copper	1450	N	0.005	0.002	<0.05	<0.05	2	50	100
Mercury	1450	N	<0.0005	<0.0005	<0.01	<0.01	0.01	0.2	2
Molybdenum	1450	N	0.002	0.004	<0.05	<0.05	0.5	10	30
Nickel	1450	N	0.004	0.002	<0.05	<0.05	0.4	10	40
Lead	1450	N	0.001	<0.001	<0.01	<0.01	0.5	10	50
Antimony	1450	N	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	1450	N	0.003	<0.001	0.01	<0.01	0.1	0.5	7
Zinc	1450	N	0.034	0.006	<0.5	<0.5	4	50	200
Chloride	1220	N	23	3.3	46	50.9	800	15000	25000
Fluoride	1220	N	0.36	0.25	<1	2.6	10	150	500
Sulfate	1220	N	600	85	1200	1320	1000	20000	50000
Total Dissolved Solids	1040	N	910	290	1820	3460	4000	60000	100000
Phenol Index	1920	N	<0.030	<0.030	<0.5	<0.5	1		
Dissolved Organic Carbon	1610	N	26	13	52	142	500	800	1000

Solid Information

Dry mass of test portion/kg	0.0875

Leach Test Information

Leachant volume 1st extract/l	0.1115
Leachant volume 2nd extract/l	0.7
Eluate recovered from 1st extract/l	0.0794

All tests undertaken between 7-Nov-2012 and 16-Nov-2012
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Appendix B
Summary of Soil Contamination Results

Method Detection Limit						<0.1	<0.0016	<1	<1	<1	<1	<15	<0.02			<0.6	<0.6	<0.02	<0.9	<1.4	<0.7	<0.14	<0.2	<1.0	<1.9	<1.0		
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.		Soil Organic Matter	Total Sulphur	pH	Total Cyanide	Free Cyanide	Thiocyanate	Sulphide (easily liberated)	Total Sulphate	Asbestos Screen		Chromium VI	Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Boron (water soluble)		Naphthalene
					INORGANICS	%	%	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	%		METALS	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	POLYCYCLIC AROMATIC HYDROCARBONS	mg/kg
0.50	TP01	13/06/2012	5738548	1		3.62	0.0462	7.14	1.67	<1	2.76	38.8	0.139	Asbestos Detected		1.20	27.10	14.50	154.00	534.00	703.00	0.70	63.60	5.00	1780.00	1.00		
1.80	TP01	13/06/2012	5738550	2		32.5	0.13	4.72	<1	<1	19.1	<15	0.389	No Asbestos Detected			5.39	1.14	10.90	31.70	57.20	0.14	24.80	3.54	237.00	11.70		0.0995
0.80	TP02	13/06/2012	5738553	3		24.5	0.0563	7.17	<5	<5	<5	<15	0.169	Asbestos Detected		1.20	47.90	5.33	71.00	422.00	292.00	0.14	84.30	10.00	1050.00	1.00		0.125
1.40	TP02	13/06/2012	5738555	4		14.2	0.0929	4.84	<1	<1	86.6	<15	0.279	No Asbestos Detected			4.65	0.51	4.94	36.20	15.90	0.16	10.30	3.68	27.20	1.00		0.203
0.80	TP03	13/06/2012	5738557	5		24.2	0.196	5.11	<5	<5	67.3	<15	0.587	No Asbestos Detected			45.10	0.08	5.61	49.50	35.50	0.16	17.60	18.10	20.30	1.00		0.0878
0.60	TP04A	13/06/2012	5738560	6		31.8	0.0379	5.82	<5	<5	7.96	<15	0.114	No Asbestos Detected		1.20	19.20	8.10	42.40	3150.00	306.00	0.15	23.90	10.00	610.00	1.00		0.0512
0.50	TP04B	13/06/2012	5738563	7		20.1	0.0664	4.32	<1	<1	27.3	<15	0.199	No Asbestos Detected			1.26	0.09	2.21	6.05	5.59	0.14	2.50	3.22	2.51	1.00		0.175
1.00	TP05	13/06/2012	5738565	8		4.21	0.0402	7.88	<1	<1	<1	<15	0.121	No Asbestos Detected		0.60	29.00	3.37	53.10	283.00	2580.00	0.75	73.40	5.00	854.00	1.00		
3.40	TP05	13/06/2012	5738569	9		0.762	0.00273	6.86	<1	<1	<1	<15	<0.02	No Asbestos Detected		0.60	3.99	0.03	14.20	25.50	11.70	0.14	17.70	1.00	55.40	1.00		0.009
1.00	TP07	13/06/2012	5738570	10		0.208	<0.0016	6.15	<1	<1	<1	<15	<0.02	No Asbestos Detected		0.60	7.57	0.02	16.40	28.80	11.70	0.14	13.20	1.00	70.80	1.00		0.009
1.00	TP08	13/06/2012	5738572	11		0.343	0.00676	5.89	<1	<1	2.61	<15	0.0203	No Asbestos Detected		1.20	3.29	0.02	17.50	8.95	9.51	0.14	13.60	1.00	79.10	1.00		0.009
CL:AIRE GAC Commercial (SOM 1%)																												
CL:AIRE GAC Commercial (SOM 2.5%)																												
CL:AIRE GAC Commercial (SOM 6%)																												
SGV commercial (SOM 6%)																	640	230				26		13,000			
S4UL commercial (SOM 1%)																												190
S4UL commercial (SOM 2.5%)																												460
S4UL commercial (SOM 6%)																33	640	190	8,600 (CrIII)	68,000		58	980	12,000	730,000	240,000		1,100

Method Detection Limit																			<10		<0.01	<0.01	<0.015	<0.01	<0.015	<0.06		<0.010	<0.010
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a) anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(123cd) pyrene	Dibenzo(ah) anthracene	Benzo(ghi) perylene	Total 16 EPA PAHs	PHENOLS	Phenol	Cresols	Xylenols	2,3,5-Trimethylphenol	2-isopropylphenol	Total Phenols	HYDROCARBONS TPH-CWG	Aliphatics EC C5-C6	Aliphatics EC>C6-C8
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg
0.50	TP01	13/06/2012	5738548	1																		0.0161	0.0161	<0.015	<0.01	<0.015	<0.06		0.01	0.01
1.80	TP01	13/06/2012	5738550	2	0.212	0.008	0.01	0.0899	0.016	0.162	0.135	0.121	0.0914	0.222	0.014	0.119	0.095	0.023	0.024	1.35		0.05	0.05	<0.015	<0.01	<0.015	<0.06		0.01	0.01
0.80	TP02	13/06/2012	5738553	3	0.159	0.008	0.0533	1.85	0.0803	2.27	1.84	0.489	0.808	1.25	0.44	0.785	0.504	0.12	0.617	11.4		0.0155	<0.01	<0.015	<0.01	<0.015	<0.06		0.01	0.0171
1.40	TP02	13/06/2012	5738555	4	0.162	0.008	0.01	0.015	0.016	0.017	0.015	0.014	0.01	0.015	0.014	0.015	0.018	0.023	0.024	0.366		0.144	0.072	<0.015	<0.01	<0.015	<0.06		0.01	0.01
0.80	TP03	13/06/2012	5738557	5	0.012	0.008	0.01	0.015	0.016	0.017	0.015	0.014	0.01	0.015	0.014	0.015	0.018	0.023	0.024	0.118		0.062	0.062	<0.015	<0.01	<0.015	<0.06		0.01	0.01
0.60	TP04A	13/06/2012	5738560	6	0.012	0.008	0.01	0.0829	0.016	0.115	0.128	0.1	0.0951	0.196	0.0691	0.121	0.0955	0.023	0.188	1.24		0.04	0.02	<0.015	<0.01	<0.015	<0.06		0.01	0.01
0.50	TP04B	13/06/2012	5738563	7	0.535	0.008	0.0765	0.119	0.016	0.017	0.015	0.103	0.01	0.015	0.014	0.015	0.018	0.023	0.024	1.01		0.054	0.054	<0.015	<0.01	<0.015	<0.06		0.01	0.01
1.00	TP05	13/06/2012	5738565	8																		0.0154	0.0154	<0.015	<0.01	<0.015	<0.06		0.01	0.01
3.40	TP05	13/06/2012	5738569	9	0.012	0.008	0.01	0.015	0.016	0.017	0.015	0.014	0.01	0.015	0.014	0.015	0.018	0.023	0.024	0.118		0.0117	<0.01	<0.015	<0.01	<0.015	<0.06		0.01	0.01
1.00	TP07	13/06/2012	5738570	10	0.012	0.008	0.01	0.015	0.016	0.017	0.015	0.014	0.01	0.015	0.014	0.015	0.018	0.023	0.024	0.118		0.0113	0.0113	<0.015	<0.01	<0.015	<0.06		0.01	0.01
1.00	TP08	13/06/2012	5738572	11	0.012	0.008	0.01	0.015	0.016	0.017	0.015	0.014	0.01	0.015	0.014	0.015	0.018	0.023	0.024	0.118		0.0117	<0.01	<0.015	<0.01	<0.015	<0.06		0.01	0.01
CL:AIRE GAC Commercial (SOM 1%)																														
CL:AIRE GAC Commercial (SOM 2.5%)																														
CL:AIRE GAC Commercial (SOM 6%)																														
SGV commercial (SOM 6%)																														
S4UL commercial (SOM 1%)					83,000	84,000	63,000	22,000	520,000	23,000	54,000	170	350	44	1,200	35	500		3,900										3,200	7,800
S4UL commercial (SOM 2.5%)					97,000	97,000	68,000	22,000	540,000	23,000	54,000	170	350	44	1,200	35	510	4	4,000										5,900	17,000
S4UL commercial (SOM 6%)					100,000	100,000	71,000	23,000	540,000	23,000	54,000	180	350	45	1,200	36	510	4	4,000										12,000	40,000

Method Detection Limit					<0.010	<0.010	<0.100	<0.100	<0.100	<0.100	<0.010	<0.010	<0.010	<0.010	<0.100	<0.100	<0.100	<0.100	<0.100	<0.010	<0.002	<0.003	<0.006	<0.003	<0.009	<0.024	<0.005		<3ug/kg	<3ug/kg
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	Aliphatics EC>C8-C10	Aliphatics EC>C10-C12	Aliphatics EC>C12-C16	Aliphatics EC>C16-C21	Aliphatics EC>C21-C35	Aliphatics EC>C35-C44	Aromatics EC C6-C7	Aromatics EC>C7-C8	Aromatics EC>C8-C10	Aromatics EC>C10-C12	Aromatics EC>C12-C16	Aromatics EC>C16-C21	Aromatics EC>C21-C35	Aromatics EC>C35-C44	TPH (Aliphatic and Aromatic C5-C44)	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	m,p,o-Xylene	Total BTEX	MTBE	PCBs	PCB Congener 81	PCB Congener 77
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		µg/ kg	µg/ kg
0.50	TP01	13/06/2012	5738548	1	0.01	0.01	4.35	35	401	149	0.01	0.01	0.01	0.01	3.58	25.9	217	111	947	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	21.4
1.80	TP01	13/06/2012	5738550	2	0.01	0.01	1.38	3.65	73.4	3.94	0.01	0.01	0.01	0.01	3.34	12.4	378	136	612	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005			
0.80	TP02	13/06/2012	5738553	3	0.0155	0.01	4.13	10.6	114	39.7	0.01	0.01	0.01	0.01	2.37	13.8	108	71.7	364	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	<3
1.40	TP02	13/06/2012	5738555	4	0.01	0.01	6.76	8.26	109	17	0.01	0.01	0.01	0.01	4.98	11.5	510	603	1270	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005			
0.80	TP03	13/06/2012	5738557	5	0.01	0.01	4.64	4.73	44.6	2.35	0.01	0.01	0.01	0.01	3.34	6.53	324	94.4	484	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	<3
0.60	TP04A	13/06/2012	5738560	6	0.01	0.01	2.58	16.5	145	42.8	0.01	0.01	0.01	0.01	2.55	8.6	132	60.4	411	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	<3
0.50	TP04B	13/06/2012	5738563	7	0.01	0.01	3.61	3.55	40.8	13.8	0.01	0.01	0.01	0.01	1.92	42.3	205	103	414	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005			
1.00	TP05	13/06/2012	5738565	8	0.01	0.01	1.61	17.1	138	22.1	0.01	0.01	0.01	0.01	1.19	9.78	99.1	42.2	331	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	<3
3.40	TP05	13/06/2012	5738569	9	0.01	0.01	0.1	0.1	0.1	0.1	0.01	0.01	0.01	0.01	1.88	1.73	5.15	2.97	11.7	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005			
1.00	TP07	13/06/2012	5738570	10	0.01	0.01	0.1	0.1	0.1	0.1	0.01	0.01	0.01	0.01	1.35	1.11	2.05	0.1	4.51	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	<3
1.00	TP08	13/06/2012	5738572	11	0.01	0.01	3.11	3.13	8.66	3.37	0.01	0.01	0.01	0.01	2.19	2.32	9.4	6.49	38.7	0.01	0.002	0.003	0.006	0.003	0.009	0.024	0.005		<3	<3
CL:AIRE GAC Commercial (SOM 1%)																											7900			
CL:AIRE GAC Commercial (SOM 2.5%)																											13000			
CL:AIRE GAC Commercial (SOM 6%)																											24000			
SGV commercial (SOM 6%)																				95	4,400	2,800	3,200	2,600						
S4UL commercial (SOM 1%)					2,000	9,700	59,000	1,600,000			26,000	56,000	3,500	16,000	36,000	28,000	28,000			27	56,000	5,700	5,900	6,600						
S4UL commercial (SOM 2.5%)					4,800	23,000	82,000	1,700,000			46,000	110,000	8,100	28,000	37,000	28,000	28,000			47	110,000	13,000	14,000	15,000						
S4UL commercial (SOM 6%)					11,000	47,000	90,000	1,800,000			86,000	180,000	17,000	34,000	38,000	28,000	28,000			90	180,000	27,000	30,000	33,000						

Method Detection Limit					<3ug/kg	<3ug/kg	<3ug/kg	<3ug/kg	<3ug/kg	<3ug/kg	<3ug/kg	<3ug/kg	<3ug/kg	<36ug/kg		<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	PCB Congener 123	PCB Congener 114	PCB Congener 105	PCB Congener 126	PCB Congener 167	PCB Congener 156	PCB Congener 157	PCB Congener 169	PCB Congener 189	PCB Congener Total	SEMI VOLATILE ORGANIC COMPOUNDS	Phenol	Pentachlorophenol	N-nitosodi-n-propylamine	Nitrobenzene	Isophorone	Hexachloroethane	Hexachlorocyclopentadiene	Hexachlorobutadiene	Hexachlorobenzene	n Dioctyl phthalate	Dimethyl phthalate	Diethyl phthalate	Di-n-butyl phthalate	Dibenzofuran
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg		µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
0.50	TP01	13/06/2012	5738548	1	5.63	10.4	105	<3	4.41	12.3	3.2	<3	<3	318		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	361	<100
1.80	TP01	13/06/2012	5738550	2												<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.80	TP02	13/06/2012	5738553	3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<36		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	16200	<100
1.40	TP02	13/06/2012	5738555	4												<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.80	TP03	13/06/2012	5738557	5	<3	<3	<3	<3	<3	<3	<3	<3	<3	<36		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.60	TP04A	13/06/2012	5738560	6	<3	<3	<3	<3	<3	<3	<3	<3	<3	<36		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	541	<100
0.50	TP04B	13/06/2012	5738563	7												<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.00	TP05	13/06/2012	5738565	8	<3	<3	4.86	<3	<3	<3	<3	<3	<3	<36		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
3.40	TP05	13/06/2012	5738569	9												<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.00	TP07	13/06/2012	5738570	10	<3	<3	<3	<3	<3	<3	<3	<3	<3	<36		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.00	TP08	13/06/2012	5738572	11	<3	<3	<3	<3	<3	<3	<3	<3	<3	<36		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
CL:AIRE GAC Commercial (SOM 1%)																					22000						150,000,000		
CL:AIRE GAC Commercial (SOM 2.5%)																	0				53000			0		0	220,000,000		
CL:AIRE GAC Commercial (SOM 6%)																	0				120000			0		0	290,000,000		
SGV commercial (SOM 6%)																3,200,000	0				0			0		0	0		0
S4UL commercial (SOM 1%)																440,000								110					
S4UL commercial (SOM 2.5%)																690,000								120					
S4UL commercial (SOM 6%)																1,300,000								120					

Method Detection Limit					<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	Carbazole	Butylbenzyl phthalate	Bis(2-ethylhexyl) phthalate	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether	Azobenzene	4-Nitrophenol	4-Nitroaniline	4-Methylphenol	4-Chlorophenylphenylether	4-Chloroaniline	4-Chloro-3-methylphenol	4-Bromophenylphenylether	3-Nitroaniline	2-Nitrophenol	2-Nitroaniline	2-Methylphenol	1,2,4-Trichlorobenzene	2-Chlorophenol	2,6-Dinitrotoluene	2,4-Dinitrotoluene	2,4-Dimethylphenol	2,4-Dichlorophenol	2,4,6-Trichlorophenol	2,4,5-Trichlorophenol
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
0.50	TP01	13/06/2012	5738548	1	<100	166	1010	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.80	TP01	13/06/2012	5738550	2	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.80	TP02	13/06/2012	5738553	3	<100	177	1880	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.40	TP02	13/06/2012	5738555	4	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.80	TP03	13/06/2012	5738557	5	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.60	TP04A	13/06/2012	5738560	6	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
0.50	TP04B	13/06/2012	5738563	7	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.00	TP05	13/06/2012	5738565	8	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
3.40	TP05	13/06/2012	5738569	9	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.00	TP07	13/06/2012	5738570	10	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1.00	TP08	13/06/2012	5738572	11	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
CL:AIRE GAC Commercial (SOM 1%)						940,000,000	85,000,000														160,000*			1,900,000	3,700,000	16,000,000			
CL:AIRE GAC Commercial (SOM 2.5%)						940,000,000	86,000,000														180,000*	0	0	1,900,000	3,700,000	24,000,000	0	0	0
CL:AIRE GAC Commercial (SOM 6%)						950,000,000	86,000,000														180,000*	0	0	1,900,000	3,800,000	30,000,000	0	0	0
SGV commercial (SOM 6%)					0	0	0														0	0	0	0	0	0	0	0	0
S4UL commercial (SOM 1%)																						220	3,500				3,500	3,500	
S4UL commercial (SOM 2.5%)																						530	4,000				4,000	4,000	
S4UL commercial (SOM 6%)																						1300	4,300				4,300	4,300	

Method Detection Limit					<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg	<100ug/kg		<4ug/kg	<7ug/kg	<10ug/kg	<13ug/kg	<14ug/kg	<6ug/kg	<10ug/kg	<7ug/kg	<10ug/kg	<11ug/kg	<11ug/kg	<8ug/kg	<5ug/kg	<12ug/kg	<14ug/kg	<8ug/kg	<7ug/kg	11ug/kg
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	1,4-Dichlorobenzene	1,3-Dichlorobenzene	1,2-Dichlorobenzene	2-Chloronaphthalene	2-Methylnaphthalene	Benzo(a)anthracene	Chrysene	VOLATILE ORGANIC COMPOUNDS	Dichlorodifluoromethane	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	Carbon Disulphide	Dichloromethane	Methyl Tertiary Butyl Ether	trans-1-2-Dichloroethene	1,1-Dichloroethane	cis-1-2-Dichloroethene	2,2-Dichloropropane	Bromochloromethane	Chloroform	1,1,1-Trichloroethane	1,1-Dichloropropene
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg		µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
0.50	TP01	13/06/2012	5738548	1	<100	<100	<100	<100	<100	<100	<100		<80	<140	<200	<260	<280	<120	<200	<140	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
1.80	TP01	13/06/2012	5738550	2	<100	<100	<100	<100	<100	<100	<100		<80	<140	<200	<260	<280	<120	<200	1170	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
0.80	TP02	13/06/2012	5738553	3	<100	<100	<100	<100	<100	188	269		<80	<140	<200	<260	<280	<120	<200	<140	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
1.40	TP02	13/06/2012	5738555	4	<100	<100	<100	<100	<100	<100	<100		<80	<140	<200	<260	<280	<120	<200	<140	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
0.80	TP03	13/06/2012	5738557	5	<100	<100	<100	<100	<100	<100	<100		<80	<140	<200	<260	<280	<120	<200	<140	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
0.60	TP04A	13/06/2012	5738560	6	<100	<100	<100	<100	<100	<100	<100		<80	<140	<200	<260	<280	<120	<200	<140	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
0.50	TP04B	13/06/2012	5738563	7	<100	<100	<100	<100	<100	<100	<100		<80	<140	<200	<260	<280	<120	<200	<140	<200	<220	<220	<160	<100	<240	<280	<160	<140	<220
1.00	TP05	13/06/2012	5738565	8	<100	<100	<100	<100	<100	<100	<100		<4	<7	<10	<13	<14	<6	<10	29.2	<10	<11	<11	<8	<5	<12	<14	<8	<7	<11
3.40	TP05	13/06/2012	5738569	9	<100	<100	<100	<100	<100	<100	<100		<4	<7	<10	<13	<14	<6	<10	<7	<10	<11	<11	<8	<5	<12	<14	<8	<7	<11
1.00	TP07	13/06/2012	5738570	10	<100	<100	<100	<100	<100	<100	<100		<4	<7	<10	<13	<14	<6	<10	<7	<10	<11	<11	<8	<5	<12	<14	<8	<7	<11
1.00	TP08	13/06/2012	5738572	11	<100	<100	<100	<100	<100	<100	<100		<4	<7	<10	<13	<14	<6	<10	<7	<10	<11	<11	<8	<5	<12	<14	<8	<7	<11
CL:AIRE GAC Commercial (SOM 1%)								390000						1000	0		960000		26000		270000	7900	22000	280000	14000					
CL:AIRE GAC Commercial (SOM 2.5%)								960000						1200	0		1300000		46000		360000	13000	40000	450000	24000		0		0	
CL:AIRE GAC Commercial (SOM 6%)								2,200,000						1600	0		2100000		92000		560000	24000	81000	400000	47000		0		0	
SGV commercial (SOM 6%)								0	0					0	0		0		0				0	0	0		0		0	
S4UL commercial (SOM 1%)															0.059														660	
S4UL commercial (SOM 2.5%)															0.077														1300	
S4UL commercial (SOM 6%)															0.12														3000	

Method Detection Limit					<14ug/kg	<5ug/kg	<9ug/kg	<12ug/kg	<9ug/kg	<7ug/kg	<14ug/kg	<14ug/kg	<10ug/kg	<7ug/kg	<5ug/kg	<13ug/kg	<12ug/kg	<5ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<5ug/kg	<10ug/kg	<17ug/kg	<10ug/kg	<11ug/kg	<9ug/kg	<8ug/kg	<12ug/kg
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	Carbontetrachloride	1,2-Dichloroethane	Trichloroethene	1,2-Dichloropropane	Dibromomethane	Bromodichloromethane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	Dibromochloromethane	1,2-Dibromoethane	Chlorobenzene	1,1,1,2-Tetrachloroethane	o-Xylene	Styrene	Bromoform	Isopropylbenzene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Bromobenzene	Propylbenzene	2-Chlorotoluene	1,3,5-Trimethylbenzene	4-Chlorotoluene
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
0.50	TP01	13/06/2012	5738548	1	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
1.80	TP01	13/06/2012	5738550	2	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
0.80	TP02	13/06/2012	5738553	3	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
1.40	TP02	13/06/2012	5738555	4	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
0.80	TP03	13/06/2012	5738557	5	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
0.60	TP04A	13/06/2012	5738560	6	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
0.50	TP04B	13/06/2012	5738563	7	<280	<100	<180	<240	<180	<140	<280	<280	<200	<140	<100	<260	<240	<100	<200	<200	<200	<200	<100	<200	<340	<200	<220	<180	<160	<240
1.00	TP05	13/06/2012	5738565	8	<14	<5	<9	<12	<9	<7	<14	<14	<10	<7	19.8	<13	<12	<5	<10	<10	<10	<10	<5	<10	<17	<10	<11	<9	<8	<12
3.40	TP05	13/06/2012	5738569	9	<14	<5	<9	<12	<9	<7	<14	<14	<10	<7	<5	<13	<12	<5	<10	<10	<10	<10	<5	<10	<17	<10	<11	<9	<8	<12
1.00	TP07	13/06/2012	5738570	10	<14	<5	<9	<12	<9	<7	<14	<14	<10	<7	<5	<13	<12	<5	<10	<10	<10	<10	<5	<10	<17	<10	<11	<9	<8	<12
1.00	TP08	13/06/2012	5738572	11	<14	<5	<9	<12	<9	<7	<14	<14	<10	<7	<5	<13	<12	<5	<10	<10	<10	<10	<5	<10	<17	<10	<11	<9	<8	<12
CL:AIRE GAC Commercial (SOM 1%)								3300		2100			94000								3300000		1400000			97000				
CL:AIRE GAC Commercial (SOM 2.5%)						0	0	5900	0	3700	0		190000		0			0	0		6500000		3300000			220000				
CL:AIRE GAC Commercial (SOM 6%)						0	0	12000	0	7600	0		400000		0			0	0		11000000		7700000			520000				
SGV commercial (SOM 6%)						0	0	0	0	0	0		0		0			0	0		0		0			0				
S4UL commercial (SOM 1%)						0.67	1.2								19000			56	110											
S4UL commercial (SOM 2.5%)						0.97	2.6								42000			130	250											
S4UL commercial (SOM 6%)						1.7	5.7								95000			290	560											

Method Detection Limit					<12ug/kg	<9ug/kg	<10ug/kg	<11ug/kg	<6ug/kg	<5ug/kg	<10ug/kg	<12ug/kg	<14ug/kg	<15ug/kg	<6ug/kg	<12ug/kg	<6ug/kg
Depth (m)	Sample Identity	Sample Date	ALcontrol Sample Ref. no.	Sample No.	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	4-Isopropyltoluene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	Tert-amyl methyl ether	1,2,4-Trichlorobenzene	Hexachlorobutadiene	1,2,3-Trichlorobenzene
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
0.50	TP01	13/06/2012	5738548	1	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
1.80	TP01	13/06/2012	5738550	2	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
0.80	TP02	13/06/2012	5738553	3	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
1.40	TP02	13/06/2012	5738555	4	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
0.80	TP03	13/06/2012	5738557	5	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
0.60	TP04A	13/06/2012	5738560	6	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
0.50	TP04B	13/06/2012	5738563	7	<240	<180	<200	<220	<120	<100	<200	<240	<280	<300	<120	<240	<120
1.00	TP05	13/06/2012	5738565	8	<12	<9	<10	<11	<6	<5	<10	<12	<14	<15	<6	<12	<6
3.40	TP05	13/06/2012	5738569	9	<12	<9	<10	<11	<6	<5	<10	<12	<14	<15	<6	<12	<6
1.00	TP07	13/06/2012	5738570	10	<12	<9	<10	<11	<6	<5	<10	<12	<14	<15	<6	<12	<6
1.00	TP08	13/06/2012	5738572	11	<12	<9	<10	<11	<6	<5	<10	<12	<14	<15	<6	<12	<6
CL:AIRE GAC Commercial (SOM 1%)						42000											
CL:AIRE GAC Commercial (SOM 2.5%)						99000			0	0		0			0	0	
CL:AIRE GAC Commercial (SOM 6%)						220000			0	0		0			0	0	
SGV commercial (SOM 6%)						0			0	0		0			0	0	
S4UL commercial (SOM 1%)									30	4400		2000			220	31	
S4UL commercial (SOM 2.5%)									73	10000		4800			530	66	
S4UL commercial (SOM 6%)									170	25000		11000			1300	120	

Method Detection Limit						<0.4	<1	<0.5	<0.5	<5	<0.5	<0.01	<0.30			<0.5	<2	<0.10	<5	<5	<5	<0.10	<5	<0.2	<5	<0.40
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.		Soil Organic Matter	pH	Total Cyanide	Free Cyanide	Thiocyanate	Sulphide (easily liberated)	Total Sulphate	Total Phenols	Asbestos Screen		Chromium VI	Arsenic	Cadmium	Total Chromium	Copper	Lead	Mercury	Nickel	Selenium	Zinc	Boron (water soluble)
						%	pH Units	mg/kg	mg/kg	mg/kg	mg/kg	%	mg/kg			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
3.00	BH06	01/11/2012	AH93069	1	INORGANICS	0.40	7.40	0.50	0.50	5.00	1.40	0.01	0.30	No Asbestos Detected	METALS	0.50	4.40	0.10	16.00	31.00	17.00	0.10	23.00	0.20	79.00	0.40
4.90	BH06	01/11/2012	AH93070	2		0.40	6.90	0.50	0.50	5.00	1.70	0.03	0.30	No Asbestos Detected		0.50	2.80	0.10	19.00	32.00	15.00	0.10	25.00	0.20	90.00	0.40
0.20	BH01	01/11/2012	AH93071	3		16.00	5.60	1.00	0.50	37.00	3.70	0.56	0.30	No Asbestos Detected		0.50	4.50	0.10	47.00	30.00	29.00	0.10	37.00	0.42	110.00	0.40
0.60	BH01	01/11/2012	AH93072	4		0.50	6.60	0.50	0.50	5.00	6.70	0.04	0.30	No Asbestos Detected		0.50	9.50	0.10	21.00	40.00	16.00	0.10	42.00	0.20	140.00	0.40
1.00	BH02	01/11/2012	AH93073	5		38.00	5.60	0.50	0.60	42.00	3.20	2.10	0.30	No Asbestos Detected		0.50	2.40	0.12	7.10	20.00	10.00	0.10	12.00	3.80	35.00	0.80
2.00	BH02	01/11/2012	AH93074	6		1.70	6.50	0.50	0.50	5.00	4.40	0.25	0.30	No Asbestos Detected		0.50	5.10	0.10	13.00	20.00	10.00	0.10	17.00	0.28	68.00	0.40
3.00	BH02	01/11/2012	AH93075	7		0.50	6.70	0.50	0.50	5.00	1.50	0.24	0.30	No Asbestos Detected		0.50	16.00	0.10	18.00	35.00	26.00	0.11	15.00	0.20	92.00	0.40
1.00	BH03	01/11/2012	AH93076	8		33.00	7.20	0.90	0.50	14.00	2.20	0.48	0.30	No Asbestos Detected		0.50	36.00	0.10	46.00	190.00	280.00	1.90	70.00	0.98	850.00	2.60
1.50	BH03	01/11/2012	AH93077	9		29.00	7.40	1.30	0.50	13.00	2.60	0.52	0.30	No Asbestos Detected		0.50	36.00	0.10	47.00	210.00	310.00	1.60	70.00	0.78	570.00	2.00
2.00	BH03	01/11/2012	AH93078	10		1.10	6.70	0.50	0.50	5.00	0.88	0.05	0.30	No Asbestos Detected		0.50	17.00	0.10	22.00	49.00	41.00	0.41	18.00	0.20	140.00	0.40
1.00	BH04	01/11/2012	AH93079	11		21.00	7.60	1.40	0.50	5.00	3.20	0.42	0.30	No Asbestos Detected		0.50	21.00	2.70	190.00	340.00	510.00	0.87	60.00	0.90	1100.00	0.80
2.00	BH04	01/11/2012	AH93080	12		13.00	7.60	2.30	0.50	5.00	42.00	0.56	0.30	No Asbestos Detected		0.50	38.00	3.00	100.00	240.00	620.00	0.53	84.00	1.10	1200.00	1.50
3.00	BH04	01/11/2012	AH93081	13		0.47	6.80	0.50	0.50	5.00	2.00	0.06	0.30	No Asbestos Detected		0.50	8.30	0.10	30.00	49.00	40.00	0.10	27.00	0.20	140.00	0.40
4.90	BH04	01/11/2012	AH93082	14		0.41	6.80	0.50	0.50	5.00	20.00	0.20	0.30	No Asbestos Detected		0.50	17.00	0.10	26.00	58.00	26.00	0.10	38.00	0.20	170.00	0.40
1.00	BH05	01/11/2012	AH93083	15		9.10	7.20	1.10	0.50	9.30	8.90	0.33	0.30	No Asbestos Detected		0.50	27.00	7.00	170.00	540.00	590.00	0.21	81.00	0.69	2600.00	0.60
3.00	BH05	01/11/2012	AH93084	16		0.88	6.80	0.50	0.50	5.00	2.50	0.15	0.30	No Asbestos Detected		0.50	20.00	0.21	30.00	71.00	59.00	0.46	20.00	0.20	250.00	0.40
5.00	BH05	01/11/2012	AH93085	17		0.40	6.80	0.50	0.50	5.00	4.50	0.01	0.30	No Asbestos Detected		0.50	10.00	0.10	25.00	57.00	44.00	0.10	28.00	0.20	150.00	0.40
1.00	BH06	01/11/2012	AH93086	18		28.00	7.70	0.90	0.50	11.00	3.60	0.37	0.30	No Asbestos Detected		0.50	49.00	0.10	75.00	310.00	1000.00	8.30	92.00	1.50	1300.00	2.10
CL:AIRE GAC Commercial (SOM 1%)																										
CL:AIRE GAC Commercial (SOM 2.5%)																										
CL:AIRE GAC Commercial (SOM 6%)																										
SGV commercial (SOM 6%)																	640	230				26		13,000		
S4UL commercial (SOM 1%)																										
S4UL commercial (SOM 2.5%)																										
S4UL commercial (SOM 6%)																33	640	190	8,600 (CrIII)	68,000		58	980	12,000	730,000	240,000

Method Detection Limit						<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<2		<0.10	<0.10	<0.10	<1
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	POLYCYCLIC AROMATIC HYDROCARBONS	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a) anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(123cd) pyrene	Dibenzo(ah) anthracene	Benzo(ghi) perylene	Total 16 EPA PAHs	HYDROCARBONS TPH-CWG	Aliphatics EC C5-C6	Aliphatics EC>C6-C8	Aliphatics EC>C8-C10	Aliphatics EC>C10-C12
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		mg/kg	mg/kg	mg/kg	mg/kg
3.00	BH06	01/11/2012	AH93069	1		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
4.90	BH06	01/11/2012	AH93070	2		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
0.20	BH01	01/11/2012	AH93071	3		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
0.60	BH01	01/11/2012	AH93072	4		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
1.00	BH02	01/11/2012	AH93073	5		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
2.00	BH02	01/11/2012	AH93074	6		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
3.00	BH02	01/11/2012	AH93075	7		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
1.00	BH03	01/11/2012	AH93076	8		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
1.50	BH03	01/11/2012	AH93077	9		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
2.00	BH03	01/11/2012	AH93078	10		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
1.00	BH04	01/11/2012	AH93079	11		0.10	0.10	0.10	0.10	0.23	0.10	0.33	0.31	0.23	0.27	0.40	0.12	0.29	0.14	0.10	0.19	2.50		0.10	0.10	0.10	1.00
2.00	BH04	01/11/2012	AH93080	12		0.27	0.10	0.10	0.10	0.18	0.10	0.14	0.21	0.11	0.15	0.25	0.10	0.18	0.10	0.10	0.26	2.00		0.10	0.10	0.10	1.00
3.00	BH04	01/11/2012	AH93081	13		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
4.90	BH04	01/11/2012	AH93082	14		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
1.00	BH05	01/11/2012	AH93083	15		0.15	0.10	0.10	0.10	0.31	0.10	0.31	0.27	0.20	0.16	0.27	0.10	0.19	0.10	0.10	0.13	2.00		0.10	0.10	0.10	1.00
3.00	BH05	01/11/2012	AH93084	16		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
5.00	BH05	01/11/2012	AH93085	17		0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
1.00	BH06	01/11/2012	AH93086	18		0.10	0.10	0.10	0.10	0.15	0.10	0.10	0.12	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	2.00		0.10	0.10	0.10	1.00
CL:AIRE GAC Commercial (SOM 1%)																											
CL:AIRE GAC Commercial (SOM 2.5%)																											
CL:AIRE GAC Commercial (SOM 6%)																											
SGV commercial (SOM 6%)																											
S4UL commercial (SOM 1%)						190	83,000	84,000	63,000	22,000	520,000	23,000	54,000	75	350	44	1,200	35	500	4	3,900			3,200	7,800	2,000	9,700
S4UL commercial (SOM 2.5%)						460	97,000	97,000	68,000	22,000	540,000	23,000	54,000	170	350	44	1,200	35	510	4	4,000			5,900	17,000	4,800	23,000
S4UL commercial (SOM 6%)						1,100	100,000	100,000	71,000	23,000	540,000	23,000	54,000	180	350	45	1,200	36	510	4	4,000			12,000	40,000	11,000	47,000

Method Detection Limit					<1	<1	<1	<1	<0.10	<0.10	<0.10	<1	<1	<1	<1	<1	<10	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<10ug/kg	<10ug/kg	<10ug/kg
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	Aliphatics EC>C12-C16	Aliphatics EC>C16-C21	Aliphatics EC>C21-C35	Aliphatics EC>C35-C44	Aromatics EC C6-C7	Aromatics EC>C7-C8	Aromatics EC>C8-C10	Aromatics EC>C10-C12	Aromatics EC>C12-C16	Aromatics EC>C16-C21	Aromatics EC>C21-C35	Aromatics EC>C35-C44	TPH (Aliphatic and Aromatic C5-C44)	Benzene	Toluene	Ethyl benzene	m/p-Xylene	o-Xylene	MTBE	PCBs	PCB Congener 81	PCB Congener 77	PCB Congener 123
					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg		µg/ kg	µg/ kg	µg/ kg
3.00	BH06	01/11/2012	AH93069	1	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
4.90	BH06	01/11/2012	AH93070	2	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
0.20	BH01	01/11/2012	AH93071	3	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001				
0.60	BH01	01/11/2012	AH93072	4	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
1.00	BH02	01/11/2012	AH93073	5	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
2.00	BH02	01/11/2012	AH93074	6	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.10	5.80	8.40	1.00	15.00	0.001	0.001	0.001	0.001	0.001	0.001				
3.00	BH02	01/11/2012	AH93075	7	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001				
1.00	BH03	01/11/2012	AH93076	8	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
1.50	BH03	01/11/2012	AH93077	9	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001				
2.00	BH03	01/11/2012	AH93078	10	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001				
1.00	BH04	01/11/2012	AH93079	11	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
2.00	BH04	01/11/2012	AH93080	12	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.0027	0.0076	0.0096	0.001		10.00	10.00	10.00
3.00	BH04	01/11/2012	AH93081	13	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
4.90	BH04	01/11/2012	AH93082	14	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001				
1.00	BH05	01/11/2012	AH93083	15	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
3.00	BH05	01/11/2012	AH93084	16	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
5.00	BH05	01/11/2012	AH93085	17	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
1.00	BH06	01/11/2012	AH93086	18	1.00	1.00	1.00	1.00	0.10	0.10	0.10	1.00	1.00	1.00	1.00	1.00	10.00	0.001	0.001	0.001	0.001	0.001	0.001		10.00	10.00	10.00
CL:AIRE GAC Commercial (SOM 1%)																							7900				
CL:AIRE GAC Commercial (SOM 2.5%)																							13000				
CL:AIRE GAC Commercial (SOM 6%)																							24000				
SGV commercial (SOM 6%)																		95	4,400	2,800	3,200	2,600					
S4UL commercial (SOM 1%)					59,000	1,600,000			26,000	56,000	3,500	16,000	36,000	28,000	28,000			27	56,000	5,700	5,900	6,600					
S4UL commercial (SOM 2.5%)					82,000	1,700,000			46,000	110,000	8,100	28,000	37,000	28,000	28,000			47	110,000	13,000	14,000	15,000					
S4UL commercial (SOM 6%)					90,000	1,800,000			86,000	180,000	17,000	34,000	38,000	28,000	28,000			90	180,000	27,000	30,000	33,000					

Method Detection Limit					<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<10ug/kg		<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	PCB Congener 114	PCB Congener 105	PCB Congener 126	PCB Congener 167	PCB Congener 156	PCB Congener 157	PCB Congener 169	PCB Congener 189	PCB Congener 118	PCB Congener Total	SEMI VOLATILE ORGANIC COMPOUNDS	Phenol	Bis(2-chloroethyl)ether	2-Chlorophenol	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2-Dichlorobenzene	2-Methylphenol	4-Methylphenol	N-nitrosodi-n-propylamine	Hexachloroethane	Nitrobenzene	Isophorone
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg		µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
3.00	BH06	01/11/2012	AH93069	1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
4.90	BH06	01/11/2012	AH93070	2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
0.20	BH01	01/11/2012	AH93071	3																							
0.60	BH01	01/11/2012	AH93072	4	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
1.00	BH02	01/11/2012	AH93073	5	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
2.00	BH02	01/11/2012	AH93074	6																							
3.00	BH02	01/11/2012	AH93075	7																							
1.00	BH03	01/11/2012	AH93076	8	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
1.50	BH03	01/11/2012	AH93077	9																							
2.00	BH03	01/11/2012	AH93078	10																							
1.00	BH04	01/11/2012	AH93079	11	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
2.00	BH04	01/11/2012	AH93080	12	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
3.00	BH04	01/11/2012	AH93081	13	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
4.90	BH04	01/11/2012	AH93082	14																							
1.00	BH05	01/11/2012	AH93083	15	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
3.00	BH05	01/11/2012	AH93084	16	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
5.00	BH05	01/11/2012	AH93085	17	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
1.00	BH06	01/11/2012	AH93086	18	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00		500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
CL:AIRE GAC Commercial (SOM 1%)																						160,000*			22000		
CL:AIRE GAC Commercial (SOM 2.5%)																		0				180,000*			53000		
CL:AIRE GAC Commercial (SOM 6%)																		0				180,000*			120000		
SGV commercial (SOM 6%)																3,200,000		0				0			0		
S4UL commercial (SOM 1%)																440,000		3,500									
S4UL commercial (SOM 2.5%)																690,000		4,000									
S4UL commercial (SOM 6%)																1,300,000		4,300									

Method Detection Limit					<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	2-Nitrophenol	2,4-Dimethylphenol	Bis(2-chloroethoxy)methane	2,4-Dichlorophenol	1,2,4-Trichlorobenzene	4-Chloroaniline	Hexachlorobutadiene	4-Chloro-3-methylphenol	2-Methylnaphthalene	Hexachlorocyclopentadiene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2-Chloronaphthalene	2-Nitroaniline	Dimethyl phthalate	2,6-Dinitrotoluene	3-Nitroaniline	Dibenzofuran	2,4-Dinitrotoluene	Diethyl phthalate	4-Chlorophenylphenylether	4-Nitroaniline
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
3.00	BH06	01/11/2012	AH93069	1	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
4.90	BH06	01/11/2012	AH93070	2	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
0.20	BH01	01/11/2012	AH93071	3																							
0.60	BH01	01/11/2012	AH93072	4	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
1.00	BH02	01/11/2012	AH93073	5	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
2.00	BH02	01/11/2012	AH93074	6																							
3.00	BH02	01/11/2012	AH93075	7																							
1.00	BH03	01/11/2012	AH93076	8	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
1.50	BH03	01/11/2012	AH93077	9																							
2.00	BH03	01/11/2012	AH93078	10																							
1.00	BH04	01/11/2012	AH93079	11	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
2.00	BH04	01/11/2012	AH93080	12	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
3.00	BH04	01/11/2012	AH93081	13	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
4.90	BH04	01/11/2012	AH93082	14																							
1.00	BH05	01/11/2012	AH93083	15	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
3.00	BH05	01/11/2012	AH93084	16	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
5.00	BH05	01/11/2012	AH93085	17	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
1.00	BH06	01/11/2012	AH93086	18	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00
CL:AIRE GAC Commercial (SOM 1%)						16,000,000											390000			1,900,000			3,700,000	150,000,000		
CL:AIRE GAC Commercial (SOM 2.5%)						24,000,000		0	0						0	0	960000		0	1,900,000			3,700,000	220,000,000		
CL:AIRE GAC Commercial (SOM 6%)						30,000,000		0	0						0	0	2,200,000		0	1,900,000			3,800,000	290,000,000		
SGV commercial (SOM 6%)						0		0	0				0		0	0	0		0	0		0	0	0		
S4UL commercial (SOM 1%)								3,500	220000							3,500										
S4UL commercial (SOM 2.5%)								4,000	530000							4,000										
S4UL commercial (SOM 6%)								4,300	1300000							4,300										

Method Detection Limit					<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg	<500ug/kg		<2ug/kg	<1ug/kg	<10ug/kg	<1ug/kg	<1ug/kg	<10ug/kg	<50ug/kg	<1ug/kg	<1ug/kg	<50ug/kg	<5ug/kg
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	Azobenzene	4-Bromophenylphenylether	Hexachlorobenzene	Pentachlorophenol	Carbazole	Di-n-butyl phthalate	Butylbenzyl phthalate	Chrysene	Bis(2-ethylhexyl) phthalate	n Dioctyl phthalate	4-Nitrophenol	VOLATILE ORGANIC COMPOUNDS	1.1.1.2-Tetrachloroethane	1.1.1-Trichloroethane	1.1.2-Trichloroethane	1.1-Dichloroethane	1.1-Dichloroethene	1.1-Dichloropropene	1.2.3-Trichloropropane	1.2.4-Trichlorobenzene	1.2.4-Trimethylbenzene	1.2-Dibromo-3-chloropropane	1.2-Dibromoethane
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg		µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
3.00	BH06	01/11/2012	AH93069	1	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
4.90	BH06	01/11/2012	AH93070	2	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
0.20	BH01	01/11/2012	AH93071	3																							
0.60	BH01	01/11/2012	AH93072	4	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
1.00	BH02	01/11/2012	AH93073	5	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
2.00	BH02	01/11/2012	AH93074	6																							
3.00	BH02	01/11/2012	AH93075	7																							
1.00	BH03	01/11/2012	AH93076	8	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
1.50	BH03	01/11/2012	AH93077	9																							
2.00	BH03	01/11/2012	AH93078	10																							
1.00	BH04	01/11/2012	AH93079	11	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
2.00	BH04	01/11/2012	AH93080	12	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	5.50	50.00	5.00
3.00	BH04	01/11/2012	AH93081	13	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
4.90	BH04	01/11/2012	AH93082	14																							
1.00	BH05	01/11/2012	AH93083	15	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
3.00	BH05	01/11/2012	AH93084	16	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
5.00	BH05	01/11/2012	AH93085	17	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
1.00	BH06	01/11/2012	AH93086	18	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00	500.00		2.00	1.00	10.00	1.00	1.00	1.00	50.00	1.00	1.00	50.00	5.00
CL:AIRE GAC Commercial (SOM 1%)											940,000,000		85,000,000						94000	280000	26000				42000		
CL:AIRE GAC Commercial (SOM 2.5%)							0	0			940,000,000		86,000,000				0	0	190000	450000	46000			0	99000		
CL:AIRE GAC Commercial (SOM 6%)							0	0			950,000,000		86,000,000				0	0	400000	400000	92000			0	220000		
SGV commercial (SOM 6%)							0	0	0		0		0				0	0	0	0	0			0	0		
S4UL commercial (SOM 1%)							110,000										110	660						220			
S4UL commercial (SOM 2.5%)							120,000										250	1300						530			
S4UL commercial (SOM 6%)							120,000										560	3000						1300			

Method Detection Limit					<1ug/kg	<2ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<2ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<5ug/kg	<20ug/kg	<1ug/kg	<2ug/kg	<1ug/kg	<1ug/kg	<10ug/kg	<10ug/kg	<10ug/kg	<1ug/kg	<10ug/kg
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	1.2-Dichlorobenzene	1.2-Dichloroethane	1.2-Dichloropropane	1.3.5-Trimethylbenzene	1.3-Dichlorobenzene	1.3-Dichloropropane	1.4-Dichlorobenzene	2-Chlorotoluene	4-Chlorotoluene	4-Isopropyltoluene	Bromobenzene	Bromochloromethane	Bromodichloromethane	Bromomethane	Chlorobenzene	Chloroethane	Chloromethane	cis-1.2-Dichloroethene	cis-1.3-Dichloropropene	Dibromochloromethane	Dibromomethane	Dichlorodifluoromethane	Dichloromethane
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
3.00	BH06	01/11/2012	AH93069	1	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
4.90	BH06	01/11/2012	AH93070	2	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
0.20	BH01	01/11/2012	AH93071	3																							
0.60	BH01	01/11/2012	AH93072	4	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
1.00	BH02	01/11/2012	AH93073	5	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
2.00	BH02	01/11/2012	AH93074	6																							
3.00	BH02	01/11/2012	AH93075	7																							
1.00	BH03	01/11/2012	AH93076	8	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
1.50	BH03	01/11/2012	AH93077	9																							
2.00	BH03	01/11/2012	AH93078	10																							
1.00	BH04	01/11/2012	AH93079	11	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
2.00	BH04	01/11/2012	AH93080	12	1.00	2.00	1.00	11.00	1.00	2.00	1.00	1.00	1.00	5.30	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
3.00	BH04	01/11/2012	AH93081	13	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
4.90	BH04	01/11/2012	AH93082	14																							
1.00	BH05	01/11/2012	AH93083	15	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
3.00	BH05	01/11/2012	AH93084	16	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
5.00	BH05	01/11/2012	AH93085	17	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
1.00	BH06	01/11/2012	AH93086	18	1.00	2.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	5.00	20.00	1.00	2.00	1.00	1.00	10.00	10.00	10.00	1.00	ne
CL:AIRE GAC Commercial (SOM 1%)							3300								97000		2100			960000	1000	14000					270000
CL:AIRE GAC Commercial (SOM 2.5%)					0	0	5900		0		0				220000	0	3700		0	1300000	1200	24000	0		0		360000
CL:AIRE GAC Commercial (SOM 6%)					0	0	12000		0		0				520000	0	7600		0	2100000	1600	47000	0		0		560000
SGV commercial (SOM 6%)					0	0	0		0		0				0	0	0		0	0	0	0	0		0		
S4UL commercial (SOM 1%)					2000	670			30		4400								56								
S4UL commercial (SOM 2.5%)					4800	970			73		10000								130								
S4UL commercial (SOM 6%)					11000	1700			170		25000								290								

Method Detection Limit					<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<1ug/kg	<10ug/kg	<10ug/kg	<1ug/kg	<1ug/kg	<1ug/kg
Depth	Sample Identity	Sample Date	Sample Ref. no.	Sample No.	Hexachlorobutadiene	Isopropylbenzene	n-Butylbenzene	Propylbenzene	sec-Butylbenzene	Styrene	tert-Butylbenzene	Tetrachloroethene	trans-1-2-Dichloroethene	trans-1-3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride
					µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg	µg/ kg
3.00	BH06	01/11/2012	AH93069	1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
4.90	BH06	01/11/2012	AH93070	2	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
0.20	BH01	01/11/2012	AH93071	3													
0.60	BH01	01/11/2012	AH93072	4	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
1.00	BH02	01/11/2012	AH93073	5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
2.00	BH02	01/11/2012	AH93074	6													
3.00	BH02	01/11/2012	AH93075	7													
1.00	BH03	01/11/2012	AH93076	8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
1.50	BH03	01/11/2012	AH93077	9													
2.00	BH03	01/11/2012	AH93078	10													
1.00	BH04	01/11/2012	AH93079	11	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
2.00	BH04	01/11/2012	AH93080	12	1.00	1.00	3.50	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
3.00	BH04	01/11/2012	AH93081	13	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
4.90	BH04	01/11/2012	AH93082	14													
1.00	BH05	01/11/2012	AH93083	15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
3.00	BH05	01/11/2012	AH93084	16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
5.00	BH05	01/11/2012	AH93085	17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
1.00	BH06	01/11/2012	AH93086	18	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	10.00	10.00	1.00	1.00	1.00
CL:AIRE GAC Commercial (SOM 1%)						1400000				3300000			22000				0
CL:AIRE GAC Commercial (SOM 2.5%)					0	3300000				6500000		0	40000		0		0
CL:AIRE GAC Commercial (SOM 6%)					0	7700000				11000000		0	81000		0		0
SGV commercial (SOM 6%)					0	0				0		0	0		0		0
S4UL commercial (SOM 1%)					31							19			1.2		59
S4UL commercial (SOM 2.5%)					66							42			2.6		77
S4UL commercial (SOM 6%)					120							95			5.7		120

Appendix C
Groundwater & Surface Water Laboratory Analytical Results – Rounds 1-4 (2012-2013)

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

RPS Consultants Ltd
Elmwood House
74 Boucher Road
Belfast

Attention: Joseph McGrath

CERTIFICATE OF ANALYSIS

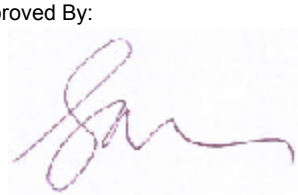
Date:	16 November 2012
Customer:	D_RPSCON_BFT
Sample Delivery Group (SDG):	121108-63
Your Reference:	IBR0373
Location:	Carrick
Report No:	202240

We received 9 samples on Wednesday November 07, 2012 and 9 of these samples were scheduled for analysis which was completed on Friday November 16, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6472543	BH01			06/11/2012
6472544	BH02			06/11/2012
6472545	BH03			06/11/2012
6472546	BH04			06/11/2012
6472547	BH05			06/11/2012
6472548	BH06			06/11/2012
6472550	SW1			06/11/2012
6472554	SW2			06/11/2012
6472555	SW3			06/11/2012

Only received samples which have had analysis scheduled will be shown on the following pages.

ALcontrol Laboratories

Validated

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			6472543						6472544						6472545						6472546						6472547						6472548						6472550			
Customer Sample Reference			BH01						BH02						BH03						BH04						BH05						BH06						SW1			
AGS Reference																																										
Depth (m)																																										
Container			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)
Acid Herbicides (W)	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 9			X						X						X						X						X						X						X	
Anions by Kone (w)	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
BOD True Total	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
COD Unfiltered	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9				X						X						X						X						X						X						X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
Fluoride	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Free Sulphur	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9					X						X						X						X						X						X						
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			6472543					
Customer Sample Reference			BH01					
AGS Reference								
Depth (m)								
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X		
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
pH Value	All	NDPs: 0 Tests: 9		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X			
Sulphide	All	NDPs: 0 Tests: 9						X
Suspended Solids	All	NDPs: 0 Tests: 9		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X					
Total Nitrogen	All	NDPs: 0 Tests: 9		X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					

Lab Sample No(s)			6472544					
Customer Sample Reference			BH02					
AGS Reference								
Depth (m)								
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X		
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
pH Value	All	NDPs: 0 Tests: 9		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X			
Sulphide	All	NDPs: 0 Tests: 9						X
Suspended Solids	All	NDPs: 0 Tests: 9		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X					
Total Nitrogen	All	NDPs: 0 Tests: 9		X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					

Lab Sample No(s)			6472545					
Customer Sample Reference			BH03					
AGS Reference								
Depth (m)								
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X		
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
pH Value	All	NDPs: 0 Tests: 9		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X			
Sulphide	All	NDPs: 0 Tests: 9						X
Suspended Solids	All	NDPs: 0 Tests: 9		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X					
Total Nitrogen	All	NDPs: 0 Tests: 9		X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					

Lab Sample No(s)			6472546					
Customer Sample Reference			BH04					
AGS Reference								
Depth (m)								
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X		
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
pH Value	All	NDPs: 0 Tests: 9		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X			
Sulphide	All	NDPs: 0 Tests: 9						X
Suspended Solids	All	NDPs: 0 Tests: 9		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X					
Total Nitrogen	All	NDPs: 0 Tests: 9		X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					

Lab Sample No(s)			6472547					
Customer Sample Reference			BH05					
AGS Reference								
Depth (m)								
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X		
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
pH Value	All	NDPs: 0 Tests: 9		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X			
Sulphide	All	NDPs: 0 Tests: 9						X
Suspended Solids	All	NDPs: 0 Tests: 9		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X					
Total Nitrogen	All	NDPs: 0 Tests: 9		X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					

Lab Sample No(s)			6472548					
Customer Sample Reference			BH06					
AGS Reference								
Depth (m)								
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X		
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X					
pH Value	All	NDPs: 0 Tests: 9		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X			
Sulphide	All	NDPs: 0 Tests: 9						X
Suspended Solids	All	NDPs: 0 Tests: 9		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X					
Total Nitrogen	All	NDPs: 0 Tests: 9		X				
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					

Lab Sample No(s)			6472550			
Customer Sample Reference			SW1			
AGS Reference						
Depth (m)						
Container			1l green glass bottle	1plastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X		
Mercury Dissolved	All	NDPs: 0 Tests: 9	X			
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X			
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X			
pH Value	All	NDPs: 0 Tests: 9		X		
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X	
Sulphide	All	NDPs: 0 Tests: 9				
Suspended Solids	All	NDPs: 0 Tests: 9		X		
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X			
Total Nitrogen	All	NDPs: 0 Tests: 9		X		
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X			
TPH CWG (W)	All	NDPs: 0 Tests: 9	X			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			6472543	6472544	6472545	6472546	6472547	6472548	6472550
Lab Sample No(s)									
Customer Sample Reference			BH01	BH02	BH03	BH04	BH05	BH06	SW1
AGS Reference									
Depth (m)									
Container			1l green glass bottle	1l green glass bottle	1l green glass bottle	1l green glass bottle	1l green glass bottle	1l green glass bottle	1l green glass bottle
			1lplastic (ALE221)	1lplastic (ALE221)	1lplastic (ALE221)	1lplastic (ALE221)	1lplastic (ALE221)	1lplastic (ALE221)	1lplastic (ALE221)
			H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)
			NaOH (ALE245)	NaOH (ALE245)	NaOH (ALE245)	NaOH (ALE245)	NaOH (ALE245)	NaOH (ALE245)	NaOH (ALE245)
			Vial (ALE297)	Vial (ALE297)	Vial (ALE297)	Vial (ALE297)	Vial (ALE297)	Vial (ALE297)	
			ZnAc	ZnAc	ZnAc	ZnAc	ZnAc	ZnAc	
VOC MS (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			6472550							6472554							6472555						
Customer Sample Reference			SW1							SW2							SW3						
AGS Reference																							
Depth (m)																							
Container			Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc
Acid Herbicides (W)	All	NDPs: 0 Tests: 9			X						X						X						
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9				X						X						X					
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 9					X						X						X				
Anions by Kone (w)	All	NDPs: 0 Tests: 9				X						X						X					
BOD True Total	All	NDPs: 0 Tests: 9				X						X						X					
COD Unfiltered	All	NDPs: 0 Tests: 9				X						X						X					
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9				X						X						X					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9						X						X						X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9				X						X						X					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9			X						X						X						
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9			X						X						X						
Fluoride	All	NDPs: 0 Tests: 9				X						X						X					
Free Sulphur	All	NDPs: 0 Tests: 9			X						X						X						
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9	X						X						X						X		
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9				X						X						X					

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			6472550	SW1			Vial (ALE297)
							ZnAc
							1l green glass bottle
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			6472554	SW2			Vial (ALE297)
							ZnAc
							1l green glass bottle
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			6472555	SW3			Vial (ALE297)
							ZnAc
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9					
Mercury Dissolved	All	NDPs: 0 Tests: 9					
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9					
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9					
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9					
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9					
pH Value	All	NDPs: 0 Tests: 9					
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9					
Sulphide	All	NDPs: 0 Tests: 9					
Suspended Solids	All	NDPs: 0 Tests: 9					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9					
Total Nitrogen	All	NDPs: 0 Tests: 9					
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9					
TPH CWG (W)	All	NDPs: 0 Tests: 9					

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			6472550	SW1			Vial (ALE297)
							ZnAc
							1l green glass bottle
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			6472554	SW2			Vial (ALE297)
							ZnAc
							1l green glass bottle
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			6472555	SW3			Vial (ALE297)
							ZnAc
VOC MS (W)	All	NDPs: 0 Tests: 9	X				
			X				
			X				

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		813 #	355 #	1260 #	43400 #	23300 #	59300 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043		220 #	60 #	31.5 #	280 #	320 #	500 #
BOD, unfiltered	<1 mg/l	TM045		<2 #	<2 #	<2 #	71.3 #	22.4 #	25 #
Organic Carbon, Total	<3 mg/l	TM090		4.98 #	<3 #	<3 #	5.76 #	6.29 #	4.3 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		0.272 #	<0.2 #	<0.2 #	1.51 #	0.58 #	2.99 #
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		0.33 #	<0.2 #	<0.2 #	1.83 #	0.704 #	3.62 #
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #	0.034 #	0.013 #	<0.01 #
Fluoride	<0.5 mg/l	TM104		<0.5 #	0.709 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
COD, unfiltered	<7 mg/l	TM107		73.3 #	50.8 #	101 #	7680 #	4900 #	10400 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.438 #	0.126 #	0.148 #	0.235 #	0.204 #	0.424 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.719 #	0.289 #	0.518 #	0.647 #	0.543 #	17.1 #
Boron (diss.filt)	<9.4 µg/l	TM152		<9.4 #	<9.4 #	10.7 #	75.1 #	14.3 #	99.7 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		1.91 #	0.445 #	0.561 #	0.82 #	0.978 #	1.81 #
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	<0.85 #	<0.85 #	<0.85 #	<0.85 #	1.93 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.201 #	0.141 #	0.044 #	0.155 #	0.191 #	0.927 #
Manganese (diss.filt)	<0.04 µg/l	TM152		3090 #	1310 #	1610 #	1570 #	1880 #	869 #
Nickel (diss.filt)	<0.15 µg/l	TM152		3.57 #	2.32 #	3.37 #	4.12 #	5.17 #	3.45 #
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	<0.39 #	0.808 #	0.714 #	0.637 #	1.26 #
Zinc (diss.filt)	<0.41 µg/l	TM152		28.4 #	34.4 #	3.82 #	28 #	101 #	29.4 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<1 #	<1 #	<1 #
Sulphate	<2 mg/l	TM184		<2 #	<2 #	<2 #	7.4 #	<2 #	19.3 #
Chloride	<2 mg/l	TM184		23.9 #	18.5 #	22.6 #	21.2 #	21.4 #	26.7 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	<0.3 #	0.323 #	0.577 #	<0.3 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
PCB congener 118	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 77	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
PCB congener 123	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1	1.08	<1	2.49
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	1.08	<1	2.49
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	0.08 #	0.281 #	0.226 #
Calcium (diss.filt)	<0.012 mg/l	TM228		72.6 #	5.51 #	9.46 #	28.4 #	23 #	55 #
Sodium (diss.filt)	<0.076 mg/l	TM228		16.7 #	12.9 #	14.7 #	13.3 #	13.3 #	27.6 #
Magnesium (diss.filt)	<0.036 mg/l	TM228		4.91 #	2.14 #	1.7 #	8.44 #	2.52 #	17 #
Potassium (diss.filt)	<2.335 mg/l	TM228		<2.34 #	<2.34 #	<2.34 #	<2.34 #	<2.34 #	6.78 #
Iron (diss.filt)	<0.019 mg/l	TM228		0.113 #	1.96 #	1.91 #	1.1 #	0.464 #	0.371 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
pH	<1 pH Units	TM256		7.34 #	6.72 #	6.48 #	6.62 #	6.14 #	6.84 #
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		2.5 #	16.5 #	3 #			
Alkalinity, Total as CaCO3	<2 mg/l	TM043		3 #	50 #	13 #			
BOD, unfiltered	<1 mg/l	TM045		2.09 #	<2 #	<2 #			
Organic Carbon, Total	<3 mg/l	TM090		10.4 #	11.7 #	7.93 #			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	<0.2 #	<0.2 #			
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		<0.2 #	<0.2 #	<0.2 #			
Sulphide	<0.01 mg/l	TM101		0.011 § #	<0.01 #	<0.01 #			
Fluoride	<0.5 mg/l	TM104		0.563 #	<0.5 #	<0.5 #			
COD, unfiltered	<7 mg/l	TM107		28.7 #	39.9 #	18.9 #			
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.064 #	0.162 #	0.0831 #			
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.394 #	0.262 #	0.46 #			
Boron (diss.filt)	<9.4 µg/l	TM152		<9.4 #	14.3 #	<9.4 #			
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #			
Chromium (diss.filt)	<0.22 µg/l	TM152		<0.22 #	0.636 #	0.253 #			
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	1.52 #	<0.85 #			
Lead (diss.filt)	<0.02 µg/l	TM152		0.207 #	0.27 #	0.131 #			
Manganese (diss.filt)	<0.04 µg/l	TM152		23.5 #	86.3 #	65.8 #			
Nickel (diss.filt)	<0.15 µg/l	TM152		0.212 #	1.29 #	0.304 #			
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	<0.39 #	<0.39 #			
Zinc (diss.filt)	<0.41 µg/l	TM152		14.5 #	8.55 #	2.15 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #			
Nitrite as NO2	<0.05 mg/l	TM184		<0.25 #	<0.05 #	<0.05 #			
Sulphate	<2 mg/l	TM184		<2 #	<2 #	<2 #			
Chloride	<2 mg/l	TM184		16 #	16.9 #	15.8 #			
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	<0.3 #			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #			
PCB congener 118	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 77	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 81	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 105	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 114	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
PCB congener 123	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 126	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 156	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 157	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 167	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 169	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 189	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1			
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Calcium (diss.filt)	<0.012 mg/l	TM228		0.608 #	18.2 #	4.72 #			
Sodium (diss.filt)	<0.076 mg/l	TM228		9.37 #	11.4 #	9.7 #			
Magnesium (diss.filt)	<0.036 mg/l	TM228		1.11 #	2.93 #	1.32 #			
Potassium (diss.filt)	<2.335 mg/l	TM228		<2.34 #	<2.34 #	<2.34 #			
Iron (diss.filt)	<0.019 mg/l	TM228		1.27 #	0.477 #	0.885 #			
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #			
pH	<1 pH Units	TM256		6.73 #	7.46 #	6.48 #			
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #			
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #			
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #			
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025			
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Acid Herbicides (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Phenoxyacetic acid (PAA)	<0.031 µg/l	TM186		<0.031 #	<0.031 #	<0.031 #	<0.0443 § #	<0.0443 § #	0.0648 § #
Dicamba	<0.033 µg/l	TM186		<0.033 #	<0.033 #	<0.033 #	<0.0472 § #	<0.0472 § #	<0.0508 § #
Phenoxypropionic acid (PPA)	<0.023 µg/l	TM186		<0.023	<0.023	<0.023	<0.0329 §	<0.0329 §	<0.0354 §
4-Chlorophenoxyacetic acid (4-CPA)	<0.037 µg/l	TM186		<0.037 #	<0.037 #	<0.037 #	<0.0529 § #	<0.0529 § #	<0.0569 § #
4-Phenoxybutyric acid	<0.019 µg/l	TM186		<0.019 #	<0.019 #	<0.019 #	<0.0272 § #	<0.0272 § #	<0.0292 § #
Bentazone	<0.018 µg/l	TM186		<0.018 #	<0.018 #	<0.018 #	<0.0257 § #	<0.0257 § #	<0.0277 § #
Bromoxynil	<0.022 µg/l	TM186		<0.022	<0.022	<0.022	<0.0314 §	<0.0314 §	<0.0338 §
2,4-Dichlorophenoxy acetic acid (2,4-D)	<0.026 µg/l	TM186		<0.026 #	<0.026 #	<0.026 #	<0.0372 § #	<0.0372 § #	<0.04 § #
2-methyl-4-Chlorophenoxy acetic acid (MCPA)	<0.03 µg/l	TM186		<0.03 #	<0.03 #	<0.03 #	<0.0429 § #	<0.0429 § #	<0.0461 § #
2-methyl-4,6-Dinitrophenol	<0.041 µg/l	TM186		<0.041	<0.041	<0.041	<0.0586 §	<0.0586 §	<0.0631 §
Triclopyr	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #	<0.0314 § #	<0.0314 § #	<0.0338 § #
Ioxynil	<0.017 µg/l	TM186		<0.017	<0.017	<0.017	<0.0243 §	<0.0243 §	<0.0261 §
2,4-Dichlorophenoxy acetic acid (2,4-DP)	<0.015 µg/l	TM186		<0.015 #	<0.015 #	<0.015 #	<0.0214 § #	<0.0214 § #	<0.0231 § #
2,4,5-Trichlorophenol (2,4,5-T)	<0.029 µg/l	TM186		<0.029 #	<0.029 #	<0.029 #	<0.0414 § #	<0.0414 § #	<0.0446 § #
Mecoprop (MCPP)	<0.025 µg/l	TM186		<0.025	<0.025	<0.025	<0.0357 §	<0.0357 §	<0.0385 §
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #	<0.0314 § #	<0.0314 § #	<0.0338 § #
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	<0.029 µg/l	TM186		<0.029 #	<0.029 #	<0.029 #	<0.0414 § #	<0.0414 § #	<0.0446 § #
2-(2,4,5-Trichlorophenoxy) proprionic acid	<0.024 µg/l	TM186		<0.024 #	<0.024 #	<0.024 #	<0.0343 § #	<0.0343 § #	<0.0369 § #
Dinoseb	<0.027 µg/l	TM186		<0.027	<0.027	<0.027	<0.0386 §	<0.0386 §	<0.0415 §
Pentachlorophenol	<0.032 µg/l	TM186		<0.032	<0.032	<0.032	<0.0457 §	<0.0457 §	<0.0492 §

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Acid Herbicides (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Phenoxyacetic acid (PAA)	<0.031 µg/l	TM186		<0.031 #	0.106 #	0.0815 #			
Dicamba	<0.033 µg/l	TM186		<0.033 #	<0.033 #	<0.033 #			
Phenoxypropionic acid (PPA)	<0.023 µg/l	TM186		<0.023	<0.023	<0.023			
4-Chlorophenoxyacetic acid (4-CPA)	<0.037 µg/l	TM186		<0.037 #	<0.037 #	<0.037 #			
4-Phenoxybutyric acid	<0.019 µg/l	TM186		<0.019 #	<0.019 #	<0.019 #			
Bentazone	<0.018 µg/l	TM186		<0.018 #	<0.018 #	<0.018 #			
Bromoxynil	<0.022 µg/l	TM186		<0.022	<0.022	<0.022			
2,4-Dichlorophenoxy acetic acid (2,4-D)	<0.026 µg/l	TM186		<0.026 #	<0.026 #	<0.026 #			
2-methyl-4-Chlorophenoxy acetic acid (MCPA)	<0.03 µg/l	TM186		<0.03 #	<0.03 #	<0.03 #			
2-methyl-4,6-Dinitrophenol	<0.041 µg/l	TM186		<0.041	<0.041	<0.041			
Triclopyr	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #			
Ioxynil	<0.017 µg/l	TM186		<0.017	<0.017	<0.017			
2,4-Dichlorophenoxy acetic acid (2,4-DP)	<0.015 µg/l	TM186		<0.015 #	<0.015 #	<0.015 #			
2,4,5-Trichlorophenol (2,4,5-T)	<0.029 µg/l	TM186		<0.029 #	<0.029 #	<0.029 #			
Mecoprop (MCPP)	<0.025 µg/l	TM186		<0.025	<0.025	<0.025			
4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #			
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	<0.029 µg/l	TM186		<0.029 #	<0.029 #	<0.029 #			
2-(2,4,5-Trichlorophenoxy) proprionic acid	<0.024 µg/l	TM186		<0.024 #	<0.024 #	<0.024 #			
Dinoseb	<0.027 µg/l	TM186		<0.027	<0.027	<0.027			
Pentachlorophenol	<0.032 µg/l	TM186		<0.032	<0.032	<0.032			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Atrazine	<1 µg/l	TM231		<1	<1	<1	<1	<1	<1
Simazine	<1 µg/l	TM231		<1	<1	<1	<1	<1	<1
Dichlorvos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mevinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tecnazene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hexachlorobenzene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Trifluralin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Quintozene (PCNB)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Diazinon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triallate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Etrimphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Disulfoton	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Propetamphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Heptachlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorpyriphos methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dimethoate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorothalonil	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pirimiphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	0.0698	<0.01	<0.01
Chlorpyriphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Telodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Isodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.03	<0.01	<0.01
Malathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fenthion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fenitrothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Heptachlor epoxide	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triadimefon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pendimethalin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorfenvinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endosulphan I	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Trans-chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
cis-Chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dieldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ethion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endosulphan II	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carbophenothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triazophos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endosulphan sulphate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Permethrin I	<0.01 µg/l	TM231		<0.02	<0.01	<0.02	<0.01	<0.02	<0.01
Phosalone	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Permethrin II	<0.01 µg/l	TM231		<0.02	<0.01	<0.02	<0.01	<0.02	<0.01
Azinphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Azinphos-ethyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Atrazine	<1 µg/l	TM231		<1	<1	<1			
Simazine	<1 µg/l	TM231		<1	<1	<1			
Dichlorvos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Mevinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Tecnazene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Hexachlorobenzene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Trifluralin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Quintozene (PCNB)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Diazinon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Triallate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Etrimphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Disulfoton	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Propetamphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Heptachlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorpyriphos methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Dimethoate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Aldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorothalonil	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Pirimiphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorpyriphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Telodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Methyl parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Isodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Malathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Fenthion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Fenitrothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Heptachlor epoxide	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Triadimefon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Pendimethalin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorfenvinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endosulphan I	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Trans-chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
cis-Chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Dieldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Ethion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endosulphan II	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Carbophenothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Triazophos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endosulphan sulphate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Permethrin I	<0.01 µg/l	TM231		<0.02	<0.02	<0.02			
Phosalone	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Permethrin II	<0.01 µg/l	TM231		<0.02	<0.02	<0.02			
Azinphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Azinphos-ethyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	<0.1 #	<0.1 #	4.55 #	<0.1 #	<0.3 #
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	0.543 #	<0.015 #	<0.045 #
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #	<0.011 #	0.138 #	<0.011 #	<0.033 #
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #	1.88 #	0.102 #	<0.051 #
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	1.52 #	0.0194 #	<0.045 #
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #	<0.022 #	6.83 #	0.0736 #	<0.066 #
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #	1.8 #	0.0153 #	<0.042 #
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #	<0.013 #	1.53 #	0.078 #	<0.039 #
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	4.31 #	0.134 #	<0.045 #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #	1.34 #	0.0689 #	<0.051 #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #	<0.023 #	2.05 #	0.0692 #	<0.069 #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #	<0.027 #	1.03 #	0.0675 #	<0.081 #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #	<0.009 #	2.68 #	0.0884 #	<0.027 #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #	0.564 #	0.0178 #	<0.048 #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #	10.6 #	0.13 #	<0.048 #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #	1.49 #	0.0556 #	<0.042 #
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247	<0.247	<0.247	42.8	0.92	<0.741

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	<0.1 #	<0.1 #			
Acenaphthene (aq)	<0.015 µg/l	TM178		0.0168 #	<0.015 #	<0.015 #			
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #	<0.011 #			
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #			
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #	<0.022 #			
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #			
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #	<0.013 #			
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #			
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #	<0.023 #			
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #	<0.027 #			
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #	<0.009 #			
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #			
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #			
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #			
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247	<0.247	<0.247			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		2.75	<2	2.14	<2	<2	<2
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		98	95	100	88	92	80
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #	512 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	7 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	40 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	14 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11	54	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	61	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10	21	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10	135	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10	118	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10	62	<10	64
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10	515	25	257
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	17700	676	4650
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	18300	701	4970
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	151	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10	79	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10	104	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10	285	<10	21
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	4380	65	454
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	4770	65	475
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10	23600	767	5450

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		97	103	104			
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #			
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #			
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #			
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #			
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #			
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #			
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #			
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11			
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28			
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
Dibromofluoromethane**	%	TM208		113	110	109	106	108	112
Toluene-d8**	%	TM208		100	99	99.2	95	96.6	93.6
4-Bromofluorobenzene**	%	TM208		97.3	97.5	98.6	83.7	79.6	74.5
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	8.08 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	40.8 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	14.9 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	1.14 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	3.64 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	10.9 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	35.6 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	4.28 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH01	BH02	BH03	BH04	BH05	BH06
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012	06/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012	07/11/2012
			SDG Ref	121108-63	121108-63	121108-63	121108-63	121108-63	121108-63
			Lab Sample No.(s)	6472543	6472544	6472545	6472546	6472547	6472548
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
Dibromofluoromethane**	%	TM208		111	111	111			
Toluene-d8**	%	TM208		99.7	99.5	99.3			
4-Bromofluorobenzene**	%	TM208		97.4	96.4	97.9			
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #			
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1			
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichloroethane	<1 µg/l	TM208		<1	<1	<1			
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/11/2012	06/11/2012	06/11/2012			
			Sample Time	.	.	.			
			Date Received	07/11/2012	07/11/2012	07/11/2012			
			SDG Ref	121108-63	121108-63	121108-63			
			Lab Sample No.(s)	6472550	6472554	6472555			
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1	<1	<1			
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichlorobenzene	<1 µg/l	TM208		<1	<1	<1			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1			
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

VOC MS (W)

Results Legend		Customer Sample R	SW1	SW2	SW3			
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
§	Deviating sample.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.			
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
tot.unfilt	Total / unfiltered sample.	Date Sampled	06/11/2012	06/11/2012	06/11/2012			
*	Subcontracted test.	Sample Time	.	.	.			
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	07/11/2012	07/11/2012	07/11/2012			
		SDG Ref	121108-63	121108-63	121108-63			
(F)	Trigger breach confirmed	Lab Sample No.(s)	6472550	6472554	6472555			
		AGS Reference						
Component	**LOD/Units**	**Method**						
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #			
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6475202	BH06		LIQUID	Acid Herbicides (W)	2-(2,4,5-Trichlorophenoxy) proprionic acid	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	2,4,5-Trichlorophenol (2,4,5-T)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	2,4-Dichlorophenoxy acetic acid (2,4-D)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	2,4-Dichlorophenoxy acetic acid (2,4-DP)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	2-methyl-4,6-Dinitrophenol	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	2-methyl-4-Chlorophenoxyacetic acid (MCPA)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	4-Chlorophenoxyacetic acid (4-CPA)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	4-Phenoxybutyric acid	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Bentazone	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Bromoxynil	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Dicamba	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Dinoseb	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Ioxynil	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Mecoprop (MCPP)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Pentachlorophenol	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Phenoxyacetic acid (PAA)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Phenoxypropionic acid (PPA)	Sample contains particulates required filtering
6475202	BH06		LIQUID	Acid Herbicides (W)	Triclopyr	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	2-(2,4,5-Trichlorophenoxy) proprionic acid	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	2,4,5-Trichlorophenol (2,4,5-T)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	2,4-Dichlorophenoxy acetic acid (2,4-D)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	2,4-Dichlorophenoxy acetic acid (2,4-DP)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	2-methyl-4,6-Dinitrophenol	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	2-methyl-4-Chlorophenoxyacetic acid (MCPA)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	4-Chlorophenoxyacetic acid (4-CPA)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	4-Phenoxybutyric acid	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Bentazone	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Bromoxynil	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Dicamba	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Dinoseb	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Ioxynil	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Mecoprop (MCPP)	Sample contains particulates required filtering

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
6475826	BH04		LIQUID	Acid Herbicides (W)	Pentachlorophenol	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Phenoxyacetic acid (PAA)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Phenoxypropionic acid (PPA)	Sample contains particulates required filtering
6475826	BH04		LIQUID	Acid Herbicides (W)	Triclopyr	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	2-(2,4,5-Trichlorophenoxy) proprionic acid	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	2,4,5-Trichlorophenol (2,4,5-T)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	2,4-Dichlorophenoxy acetic acid (2,4-D)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	2,4-Dichlorophenoxy acetic acid (2,4-DP)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	2-methyl-4,6-Dinitrophenol	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	2-methyl-4-Chlorophenoxyacetic acid (MCPA)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	4-Chlorophenoxyacetic acid (4-CPA)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	4-Phenoxybutyric acid	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Bentazone	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Bromoxynil	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Dicamba	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Dinoseb	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Ioxynil	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Mecoprop (MCPP)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Pentachlorophenol	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Phenoxyacetic acid (PAA)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Phenoxypropionic acid (PPA)	Sample contains particulates required filtering
6476506	BH05		LIQUID	Acid Herbicides (W)	Triclopyr	Sample contains particulates required filtering
6492470	SW1		LIQUID	Sulphide	Sulphide	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM186	Determination of Acidic Herbicides in Groundwater and Potable Water by LC/MSD Using Selective Ion Monitoring. Agilent Technologies Inc. Application Note 5988-5882EN.	The Determination of Acid Herbicides in Environmental Water Samples and Leachates by LC/MS QQQ.		
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM212	SO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM231	Agilent 6890 Gas Chromatograph system using an Agilent 5973 Mass Selective Detector (MSD)	Determination of Organochlorine and Organophosphorus Pesticides and Triazine Herbicides by GCMS		
TM239	Sulphide in Waters and Effluents 1983 (Tentative Methods) HMSO 1983, ISBN 011 7517186	Determination of Easily Liberated Sulphide in Waste waters		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294		Determination of Free Sulphur in liquids by HPLC		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	6472543	6472544	6472545	6472546	6472547	6472548	6472550	6472554	6472555
Customer Sample Ref.	BH01	BH02	BH03	BH04	BH05	BH06	SW1	SW2	SW3
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Acid Herbicides (W)	14-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	14-Nov-2012
Alkalinity as CaCO3	09-Nov-2012	09-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012
Ammoniacal Nitrogen	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012
Anions by Kone (w)	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	09-Nov-2012	09-Nov-2012	15-Nov-2012	15-Nov-2012
BOD True Total	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012
COD Unfiltered	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
Conductivity (at 20 deg.C)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
Cyanide Comp/Free/Total/Thiocyanate	12-Nov-2012	12-Nov-2012	12-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012
Dissolved Metals by ICP-MS	13-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012
EPH CWG (Aliphatic) Aqueous GC (W)	15-Nov-2012	13-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	13-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012
EPH CWG (Aromatic) Aqueous GC (W)	15-Nov-2012	13-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	13-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012
Fluoride	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	13-Nov-2012	13-Nov-2012
Free Sulphur	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012
GRO by GC-FID (W)	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012
Hexavalent Chromium (w)	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012
Kjeldahl Nitrogen on liquids	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	14-Nov-2012	14-Nov-2012	15-Nov-2012	15-Nov-2012
Mercury Dissolved	13-Nov-2012	13-Nov-2012	15-Nov-2012	13-Nov-2012	15-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012
Metals by iCap-OES Dissolved (W)	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012
Nitrite by Kone (w)	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
OC, OP Pesticides and Triazine Herb	13-Nov-2012	12-Nov-2012	13-Nov-2012	12-Nov-2012	13-Nov-2012	12-Nov-2012	13-Nov-2012	13-Nov-2012	13-Nov-2012
PAH Spec MS - Aqueous (W)	15-Nov-2012	14-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	14-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012
PCB Congeners - Aqueous (W)	15-Nov-2012	12-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	12-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012
pH Value	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012	12-Nov-2012
Phenols by HPLC (W)	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012
Sulphide	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	14-Nov-2012	15-Nov-2012	14-Nov-2012	14-Nov-2012
Suspended Solids	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012	09-Nov-2012
SVOC MS (W) - Aqueous	16-Nov-2012	16-Nov-2012	16-Nov-2012	16-Nov-2012	16-Nov-2012	16-Nov-2012	16-Nov-2012	16-Nov-2012	16-Nov-2012
Total Nitrogen	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	14-Nov-2012	14-Nov-2012	15-Nov-2012	15-Nov-2012
Total Organic and Inorganic Carbon	10-Nov-2012	10-Nov-2012	10-Nov-2012	10-Nov-2012	10-Nov-2012	10-Nov-2012	10-Nov-2012	10-Nov-2012	10-Nov-2012
TPH CWG (W)	15-Nov-2012	14-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	14-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012
VOC MS (W)	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012	15-Nov-2012

SDG:	121108-63	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	202240
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB AROCLOR 1254 / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE:ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB AROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

RPS Consultants Ltd
Elmwood House
74 Boucher Road
Belfast

Attention: Joseph McGrath

CERTIFICATE OF ANALYSIS

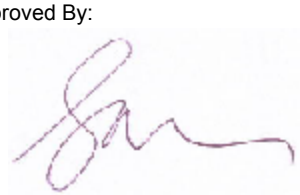
Date:	23 November 2012
Customer:	D_RPSCON_BFT
Sample Delivery Group (SDG):	121116-106
Your Reference:	IBR0373
Location:	Carrick
Report No:	203014

We received 9 samples on Thursday November 15, 2012 and 9 of these samples were scheduled for analysis which was completed on Friday November 23, 2012. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6513502	BH02			13/11/2012
6513503	BH03			13/11/2012
6513505	BH04			13/11/2012
6513507	BH05			13/11/2012
6513509	BH06			13/11/2012
6513500	BHO1			13/11/2012
6513494	SW1			13/11/2012
6513496	SW2			13/11/2012
6513498	SW3			13/11/2012

Only received samples which have had analysis scheduled will be shown on the following pages.

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s) / **Customer Sample Reference** / **AGS Reference** / **Depth (m)** / **Container**

Test			6513502 BH02 1l green glass bottle	6513502 BH02 1lplastic (ALE221)	6513502 BH02 H2SO4 (ALE244)	6513502 BH02 NaOH (ALE245)	6513503 BH03 1l green glass bottle	6513503 BH03 1lplastic (ALE221)	6513503 BH03 H2SO4 (ALE244)	6513503 BH03 NaOH (ALE245)	6513505 BH04 1l green glass bottle	6513505 BH04 1lplastic (ALE221)	6513505 BH04 H2SO4 (ALE244)	6513505 BH04 NaOH (ALE245)	6513507 BH05 1l green glass bottle	6513507 BH05 1lplastic (ALE221)	6513507 BH05 H2SO4 (ALE244)	6513507 BH05 NaOH (ALE245)	6513509 BH06 1l green glass bottle	6513509 BH06 1lplastic (ALE221)	6513509 BH06 H2SO4 (ALE244)	6513509 BH06 NaOH (ALE245)	6513500 BH01 1l green glass bottle	6513500 BH01 1lplastic (ALE221)	6513500 BH01 H2SO4 (ALE244)	6513500 BH01 NaOH (ALE245)	6513494 SW1 1l green glass bottle	6513494 SW1 1lplastic (ALE221)	6513494 SW1 H2SO4 (ALE244)	6513494 SW1 NaOH (ALE245)	6513496 SW2 1l green glass bottle	6513496 SW2 1lplastic (ALE221)	6513496 SW2 H2SO4 (ALE244)	6513496 SW2 NaOH (ALE245)	6513498 SW3 1l green glass bottle	6513498 SW3 1lplastic (ALE221)	6513498 SW3 H2SO4 (ALE244)	6513498 SW3 NaOH (ALE245)
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 9			X				X				X				X				X				X				X				X				X	
Anions by Kone (w)	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
BOD True Total	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
COD Unfiltered	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9				X				X				X				X				X				X				X				X				X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Fluoride	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Free Sulphur	All	NDPs: 0 Tests: 9	X				X				X				X				X				X				X				X				X			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Mercury Dissolved	All	NDPs: 0 Tests: 9	X				X				X				X				X				X				X				X				X			
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X				X				X				X				X				X				X				X				X

CERTIFICATE OF ANALYSIS

SDG: 121116-106 **Location:** Carrick **Order Number:** 240467739
Job: D_RPSCON_BFT-78 **Customer:** RPS Consultants Ltd **Report Number:** 203014
Client Reference: IBR0373 **Attention:** Joseph McGrath **Superseded Report:**

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			6513502				6513503				6513505				6513507				6513509				6513500				6513494				6513496				6513498			
Customer Sample Reference			BH02				BH03				BH04				BH05				BH06				BH01				SW1				SW2				SW3			
AGS Reference																																						
Depth (m)																																						
Container			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X				X				X				X				X				X				X				X				X			
pH Value	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X				X				X				X				X				X				X				X				X	
Sulphide	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Suspended Solids	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Total Nitrogen	All	NDPs: 0 Tests: 9		X				X				X				X				X				X				X				X				X		
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X				X				X				X				X				X				X				X				X			

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH02	BH03	BH04	BH05	BH06	BHO1
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/11/2012	13/11/2012	13/11/2012	13/11/2012	13/11/2012	13/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/11/2012	15/11/2012	15/11/2012	15/11/2012	15/11/2012	15/11/2012
			SDG Ref	121116-106	121116-106	121116-106	121116-106	121116-106	121116-106
			Lab Sample No.(s)	6513502	6513503	6513505	6513507	6513509	6513500
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		700 #	1650 #	328 #	8080 #	4960 #	1160 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043		19.5 #	32 #	50 #	75 #	160 #	200 #
BOD, unfiltered	<1 mg/l	TM045		<3 #	<3 #	<4 #	14.2 #	4.97 #	<3 #
Organic Carbon, Total	<3 mg/l	TM090		<3 #	<3 #	11.4 #	4.41 #	6.38 #	5.95 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	0.221 #	0.331 #	0.441 #	0.872 #	<0.2 #
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		<0.2 #	0.268 #	0.402 #	0.536 #	1.06 #	<0.2 #
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Fluoride	<0.5 mg/l	TM104		<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
COD, unfiltered	<7 mg/l	TM107		71.3 #	84.9 #	170 #	2850 #	1390 #	59 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.102 #	0.135 #	0.118 #	0.149 #	0.277 #	0.407 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.126 #	0.351 #	0.581 #	1.19 #	4.31 #	0.273 #
Boron (diss.filt)	<9.4 µg/l	TM152		<9.4 #	<9.4 #	18.5 #	12.9 #	51.9 #	<9.4 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	0.12 #	<0.1 #	<0.1 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		0.266 #	<0.22 #	0.64 #	0.6 #	0.742 #	0.37 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.24 #	<0.85 #	14.5 #	2.11 #	4.73 #	2.94 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.069 #	0.032 #	4.08 #	0.265 #	0.458 #	0.037 #
Manganese (diss.filt)	<0.04 µg/l	TM152		1310 #	1830 #	211 #	1280 #	508 #	3200 #
Nickel (diss.filt)	<0.15 µg/l	TM152		1.92 #	2.32 #	4.32 #	2 #	1.6 #	4.81 #
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	<0.39 #	0.67 #	0.569 #	1.79 #	<0.39 #
Zinc (diss.filt)	<0.41 µg/l	TM152		21.5 #	0.971 #	95.1 #	56.7 #	10.3 #	13.5 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.25 #	<1 #	<1 #	<0.05 #
Sulphate	<2 mg/l	TM184		<2 #	<2 #	<2 #	<2 #	13.2 #	2 #
Chloride	<2 mg/l	TM184		19.3 #	22.8 #	14.4 #	21.3 #	23.5 #	25.8 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	1.88 #	1.06 #	2.21 #	<0.3 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	0.434 #	0.239 #	0.644 #	<0.1 #
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1	<1	1.2	<1
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	1.84	<1
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	0.068 #	<0.05 #	<0.05 #

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH02	BH03	BH04	BH05	BH06	BHO1
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/11/2012	13/11/2012	13/11/2012	13/11/2012	13/11/2012	13/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/11/2012	15/11/2012	15/11/2012	15/11/2012	15/11/2012	15/11/2012
			SDG Ref	121116-106	121116-106	121116-106	121116-106	121116-106	121116-106
			Lab Sample No.(s)	6513502	6513503	6513505	6513507	6513509	6513500
			AGS Reference						
Calcium (diss.filt)	<0.012 mg/l	TM228		4.18 #	9.73 #	13.3 #	15.8 #	37.2 #	69.5 #
Sodium (diss.filt)	<0.076 mg/l	TM228		13.5 #	14.6 #	9.16 #	14.1 #	21.9 #	18.4 #
Magnesium (diss.filt)	<0.036 mg/l	TM228		1.88 #	1.75 #	2.15 #	2.25 #	9.51 #	5.19 #
Potassium (diss.filt)	<2.335 mg/l	TM228		<2.34 #	<2.34 #	<2.34 #	<2.34 #	4.95 #	<2.34 #
Iron (diss.filt)	<0.019 mg/l	TM228		0.0484 #	<0.019 #	0.665 #	0.289 #	0.342 #	<0.019 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.06 #	<0.03 #	<0.03 #	<0.03 #
pH	<1 pH Units	TM256		6.81 #	6.61 #	7.23 #	6.47 #	7.21 #	7.28 #
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	13/11/2012	13/11/2012	13/11/2012			
			Sample Time	.	.	.			
			Date Received	15/11/2012	15/11/2012	15/11/2012			
			SDG Ref	121116-106	121116-106	121116-106			
			Lab Sample No.(s)	6513494	6513496	6513498			
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		<2 #	181 #	10.5 #			
Alkalinity, Total as CaCO3	<2 mg/l	TM043		<2 #	55 #	8 #			
BOD, unfiltered	<1 mg/l	TM045		<3 #	<3 #	<2 #			
Organic Carbon, Total	<3 mg/l	TM090		13.8 #	13.1 #	11.3 #			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	0.2 #	<0.2 #			
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		<0.2 #	0.243 #	<0.2 #			
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #			
Fluoride	<0.5 mg/l	TM104		0.583 #	<0.5 #	<0.5 #			
COD, unfiltered	<7 mg/l	TM107		36.5 #	39.5 #	34.5 #			
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.0551 #	0.145 #	0.0611 #			
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.355 #	0.486 #	0.229 #			
Boron (diss.filt)	<9.4 µg/l	TM152		<9.4 #	19.1 #	<9.4 #			
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #			
Chromium (diss.filt)	<0.22 µg/l	TM152		<0.22 #	0.428 #	<0.22 #			
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	3.39 #	<0.85 #			
Lead (diss.filt)	<0.02 µg/l	TM152		0.165 #	0.474 #	0.123 #			
Manganese (diss.filt)	<0.04 µg/l	TM152		10.7 #	26.1 #	6.08 #			
Nickel (diss.filt)	<0.15 µg/l	TM152		0.209 #	1.59 #	0.318 #			
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	0.891 #	<0.39 #			
Zinc (diss.filt)	<0.41 µg/l	TM152		2.03 #	15.3 #	5.04 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #			
Nitrite as NO2	<0.05 mg/l	TM184		<0.25 #	<0.25 #	<0.25 #			
Sulphate	<2 mg/l	TM184		<2 #	<2 #	<2 #			
Chloride	<2 mg/l	TM184		14.7 #	15.5 #	13.6 #			
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	0.062 #	<0.05 #			
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	1.71 #	<0.3 #			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	0.404 #	<0.1 #			
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1			
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	13/11/2012	13/11/2012	13/11/2012			
			Sample Time	.	.	.			
			Date Received	15/11/2012	15/11/2012	15/11/2012			
			SDG Ref	121116-106	121116-106	121116-106			
			Lab Sample No.(s)	6513494	6513496	6513498			
			AGS Reference						
Calcium (diss.filt)	<0.012 mg/l	TM228		<0.012 #	19.1 #	2.57 #			
Sodium (diss.filt)	<0.076 mg/l	TM228		8.19 #	9.86 #	8.32 #			
Magnesium (diss.filt)	<0.036 mg/l	TM228		0.92 #	2.83 #	0.973 #			
Potassium (diss.filt)	<2.335 mg/l	TM228		<2.34 #	<2.34 #	<2.34 #			
Iron (diss.filt)	<0.019 mg/l	TM228		1.21 #	0.495 #	0.828 #			
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.06 #	<0.06 #	<0.06 #			
pH	<1 pH Units	TM256		5.45 #	7.48 #	6.89 #			
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #			
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #			
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #			
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025			
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05			

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH02	BH03	BH04	BH05	BH06	BHO1
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/11/2012	13/11/2012	13/11/2012	13/11/2012	13/11/2012	13/11/2012
			Sample Time	.	.	.	.	.	.
			Date Received	15/11/2012	15/11/2012	15/11/2012	15/11/2012	15/11/2012	15/11/2012
			SDG Ref	121116-106	121116-106	121116-106	121116-106	121116-106	121116-106
			Lab Sample No.(s)	6513502	6513503	6513505	6513507	6513509	6513500
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #	<0.011 #	<0.011 #	<0.011 #	<0.011 #
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #	0.0957 #	<0.017 #	<0.017 #
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	0.0156 #	<0.015 #	<0.015 #
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #	<0.022 #	0.0749 #	<0.022 #	<0.022 #
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #	<0.014 #	<0.014 #	<0.014 #
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #	0.0211 #	0.0629 #	<0.013 #	<0.013 #
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	0.17 #	0.129 #	<0.015 #	<0.015 #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	0.018 #	0.0644 #	<0.017 #	<0.017 #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #	0.0272 #	0.0576 #	<0.023 #	<0.023 #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #	<0.027 #	0.0563 #	<0.027 #	<0.027 #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #	0.0391 #	0.0699 #	<0.009 #	<0.009 #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	0.117 #	0.0993 #	<0.016 #	<0.016 #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	0.0165 #	0.04 #	<0.014 #	<0.014 #
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247	<0.247	0.409	0.766	<0.247	<0.247

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	13/11/2012	13/11/2012	13/11/2012			
			Sample Time	.	.	.			
			Date Received	15/11/2012	15/11/2012	15/11/2012			
			SDG Ref	121116-106	121116-106	121116-106			
			Lab Sample No.(s)	6513494	6513496	6513498			
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	<0.1 #	<0.1 #			
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #	<0.011 #			
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #			
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #	<0.022 #			
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #			
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #	<0.013 #			
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #			
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #	<0.023 #			
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #	<0.027 #			
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #	<0.009 #			
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #			
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #			
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #			
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247	<0.247	<0.247			

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM212	SO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM239	Sulphide in Waters and Effluents 1983 (Tentative Methods) HMSO 1983, ISBN 011 7517186	Determination of Easily Liberated Sulphide in Waste waters		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294		Determination of Free Sulphur in liquids by HPLC		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	6513502	6513503	6513505	6513507	6513509	6513500	6513494	6513496	6513498
Customer Sample Ref.	BH02	BH03	BH04	BH05	BH06	BHO1	SW1	SW2	SW3
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Alkalinity as CaCO3	21-Nov-2012	21-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012
Ammoniacal Nitrogen	20-Nov-2012	20-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012
Anions by Kone (w)	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012
BOD True Total	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012
COD Unfiltered	17-Nov-2012	17-Nov-2012	17-Nov-2012	17-Nov-2012	17-Nov-2012	17-Nov-2012	17-Nov-2012	17-Nov-2012	17-Nov-2012
Conductivity (at 20 deg.C)	19-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012
Cyanide Comp/Free/Total/Thiocyanate	20-Nov-2012	20-Nov-2012	20-Nov-2012	19-Nov-2012	19-Nov-2012	21-Nov-2012	20-Nov-2012	21-Nov-2012	21-Nov-2012
Dissolved Metals by ICP-MS	22-Nov-2012	22-Nov-2012	21-Nov-2012	22-Nov-2012	21-Nov-2012	22-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012
Fluoride	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012
Free Sulphur	22-Nov-2012	22-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012
Hexavalent Chromium (w)	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012
Kjeldahl Nitrogen on liquids	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012
Mercury Dissolved	21-Nov-2012	21-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012
Metals by iCap-OES Dissolved (W)	20-Nov-2012	20-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	20-Nov-2012	22-Nov-2012	22-Nov-2012	20-Nov-2012
Nitrite by Kone (w)	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012
PAH Spec MS - Aqueous (W)	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012
pH Value	20-Nov-2012	20-Nov-2012	19-Nov-2012	19-Nov-2012	19-Nov-2012	20-Nov-2012	20-Nov-2012	19-Nov-2012	20-Nov-2012
Phenols by HPLC (W)	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012	23-Nov-2012
Sulphide	21-Nov-2012	21-Nov-2012	21-Nov-2012	21-Nov-2012	22-Nov-2012	21-Nov-2012	22-Nov-2012	21-Nov-2012	21-Nov-2012
Suspended Solids	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012
Total Nitrogen	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012
Total Organic and Inorganic Carbon	22-Nov-2012	22-Nov-2012	20-Nov-2012	20-Nov-2012	20-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012	22-Nov-2012

CERTIFICATE OF ANALYSIS

SDG:	121116-106	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	203014
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB AROCLOR 1254 / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE:ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB AROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
MINERAL OIL by IR	TCE	STIRRED EXTRACTION (STIR-BAR)	IR
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

RPS Consultants Ltd
Elmwood House
74 Boucher Road
Belfast

Attention: Joseph McGrath

CERTIFICATE OF ANALYSIS

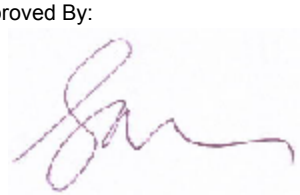
Date:	22 January 2013
Customer:	D_RPSCON_BFT
Sample Delivery Group (SDG):	130111-76
Your Reference:	IBR0373
Location:	Carrick
Report No:	209353

We received 9 samples on Thursday January 10, 2013 and 9 of these samples were scheduled for analysis which was completed on Tuesday January 22, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6758691	BH1			09/01/2013
6758693	BH2			09/01/2013
6758688	BH3			09/01/2013
6758694	BH4			09/01/2013
6758692	BH5			09/01/2013
6758686	BH6			09/01/2013
6758685	SW1			09/01/2013
6758690	SW2			09/01/2013
6758687	SW3			09/01/2013

Only received samples which have had analysis scheduled will be shown on the following pages.

SDG: 130111-76
Job: D_RPSCON_BFT-78
Client Reference: IBR0373

Location: Carrick
Customer: RPS Consultants Ltd
Attention: Joseph McGrath

Order Number: 240467739
Report Number: 209353
Superseded Report:

LIQUID

Results Legend

- X Test
- N No Determination Possible

Test	Samples	NDPs/Tests	6758691					6758693					6758688					6758694					6758692					6758686					6758685					6758690				
Customer Sample Reference			BH1					BH2					BH3					BH4					BH5					BH6					SW1					SW2				
AGS Reference																																											
Depth (m)																																											
Container			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 9			X					X					X					X					X					X					X					X		
Anions by Kone (w)	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
BOD True Total	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
COD Unfiltered	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9				X					X					X					X					X					X					X					X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9	X					X					X					X					X					X					X					X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9	X					X					X					X					X					X					X					X				
Fluoride	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
Free Sulphur	All	NDPs: 0 Tests: 9	X					X					X					X					X					X					X					X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9					X					X					X					X					X					X					X					X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X					X					X					X					X					X					X					X			

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			6758691					6758693					6758688					6758694				
Customer Sample Reference			BH1					BH2					BH3					BH4				
AGS Reference																						
Depth (m)																						
Container			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					X					X					X				
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X					X					X					X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X					X					X					X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					X					X					X				
pH Value	All	NDPs: 0 Tests: 9		X					X					X					X			
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X					X					X					X		
Sulphide	All	NDPs: 0 Tests: 9		X					X					X					X			
Suspended Solids	All	NDPs: 0 Tests: 9		X					X					X					X			
Total Nitrogen	All	NDPs: 0 Tests: 9		X					X					X					X			
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					X					X					X				
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					X					X					X				

Lab Sample No(s)			6758692					6758686					6758685					6758690				
Customer Sample Reference			BH5					BH6					SW1					SW2				
AGS Reference																						
Depth (m)																						
Container			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Mercury Dissolved	All	NDPs: 0 Tests: 9	X					X					X					X				
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X					X					X					X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X					X					X					X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X					X					X					X				
pH Value	All	NDPs: 0 Tests: 9		X					X					X					X			
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X					X					X					X		
Sulphide	All	NDPs: 0 Tests: 9		X					X					X					X			
Suspended Solids	All	NDPs: 0 Tests: 9		X					X					X					X			
Total Nitrogen	All	NDPs: 0 Tests: 9		X					X					X					X			
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X					X					X					X				
TPH CWG (W)	All	NDPs: 0 Tests: 9	X					X					X					X				

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

		Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container			
		6758687	SW3			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9					X			
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 9						X		
Anions by Kone (w)	All	NDPs: 0 Tests: 9					X			
BOD True Total	All	NDPs: 0 Tests: 9					X			
COD Unfiltered	All	NDPs: 0 Tests: 9						X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9					X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9							X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9					X			
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9				X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9				X				
Fluoride	All	NDPs: 0 Tests: 9					X			
Free Sulphur	All	NDPs: 0 Tests: 9				X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9								X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9					X			
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9					X			

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container			
			6758687	SW3			1l green glass bottle	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Mercury Dissolved	All	NDPs: 0 Tests: 9					X				
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9						X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9								X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9					X				
pH Value	All	NDPs: 0 Tests: 9						X			
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9							X		
Sulphide	All	NDPs: 0 Tests: 9						X			
Suspended Solids	All	NDPs: 0 Tests: 9						X			
Total Nitrogen	All	NDPs: 0 Tests: 9						X			
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9					X				
TPH CWG (W)	All	NDPs: 0 Tests: 9					X				

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013
			SDG Ref	130111-76	130111-76	130111-76	130111-76	130111-76	130111-76
			Lab Sample No.(s)	6758691	6758693	6758688	6758694	6758692	6758686
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		80.5 #	181 #	744 #	45100 #	15300 #	2100 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043		205 #	20 #	50 #	82.5 #	36.5 #	80 #
BOD, unfiltered	<1 mg/l	TM045		<2 #	<2 ♦ #	<2 #	11.8 #	8.12 #	<2 #
Organic Carbon, Total	<3 mg/l	TM090		4.95 #	<3 #	<3 #	5.94 #	3.73 #	5.68 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		0.222 #	<0.2 #	0.313 #	0.309 #	0.631 #	0.751 #
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		0.27 #	<0.2 #	0.38 #	0.375 #	0.766 #	0.912 #
Sulphide	<0.01 mg/l	TM101		<0.01 ♦ #	<0.01 #	<0.01 ♦ #	0.044 ♦ #	<0.01 ♦ #	<0.01 ♦ #
Fluoride	<0.5 mg/l	TM104		<0.5 #	0.534 #	<0.5 #	<0.5 #	0.606 #	<0.5 #
COD, unfiltered	<7 mg/l	TM107		26.4 #	27.2 #	95.8 #	13000 #	3150 #	148 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.399 #	0.101 #	0.15 #	0.178 #	0.127 #	0.191 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.404 #	0.122 #	0.421 #	2.59 #	1.8 #	2.57 #
Boron (diss.filt)	<9.4 µg/l	TM152		<9.4 #	14.9 #	10.9 #	21.6 #	<9.4 #	40.2 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	0.133 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		1.55 #	0.672 #	0.836 #	1.52 #	1.5 #	1.44 #
Copper (diss.filt)	<0.85 µg/l	TM152		1.37 #	<0.85 #	<0.85 #	0.904 #	2.62 #	3.4 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.032 #	<0.02 #	<0.02 #	2.93 #	3.24 #	0.138 #
Manganese (diss.filt)	<0.04 µg/l	TM152		3650 #	1410 #	1670 #	1290 #	1470 #	296 #
Nickel (diss.filt)	<0.15 µg/l	TM152		3.47 #	1.58 #	1.79 #	7.6 #	3.78 #	1.05 #
Selenium (diss.filt)	<0.39 µg/l	TM152		0.474 #	<0.39 #	<0.39 #	<0.39 #	0.411 #	1.16 #
Zinc (diss.filt)	<0.41 µg/l	TM152		23.7 #	44.4 #	0.417 #	34 #	76.4 #	12.9 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	0.0103 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.1 #	<0.25 #	<0.25 #
Sulphate	<2 mg/l	TM184		<2 #	<2 #	<2 #	<2 #	<2 #	5.2 #
Chloride	<2 mg/l	TM184		24.2 #	16.6 #	19.9 #	19 #	21.4 #	15.1 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	0.304 #	0.527 #	<0.3 #	7.82 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	0.11 #	<0.1 #	1.79 #
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	2.58
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	0.186 #	<0.05 #

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013
			SDG Ref	130111-76	130111-76	130111-76	130111-76	130111-76	130111-76
			Lab Sample No.(s)	6758691	6758693	6758688	6758694	6758692	6758686
			AGS Reference						
Calcium (diss.filt)	<0.012 mg/l	TM228		80.6 #	3.34 #	13.1 #	23.3 #	10.4 #	21.7 #
Sodium (diss.filt)	<0.076 mg/l	TM228		18.5 #	12.9 #	14.7 #	12.9 #	14.1 #	12.8 #
Magnesium (diss.filt)	<0.036 mg/l	TM228		5.33 #	1.87 #	1.96 #	2.53 #	1.99 #	5.25 #
Potassium (diss.filt)	<2.335 mg/l	TM228		<2.34 #	<2.34 #	<2.34 #	<2.34 #	<2.34 #	3.8 #
Iron (diss.filt)	<0.019 mg/l	TM228		<0.019 #	1.86 #	0.0331 #	1.32 #	3.35 #	0.228 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
pH	<1 pH Units	TM256		7.22 #	6.14 #	7 #	6.49 #	6.1 #	7.69 #
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05	<0.0545	<0.06	<0.0545

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	09/01/2013	09/01/2013	09/01/2013			
			Sample Time	.	.	.			
			Date Received	10/01/2013	10/01/2013	10/01/2013			
			SDG Ref	130111-76	130111-76	130111-76			
			Lab Sample No.(s)	6758685	6758690	6758687			
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		<2 #	2.5 #	5 #			
Alkalinity, Total as CaCO3	<2 mg/l	TM043		3 #	50 #	11 #			
BOD, unfiltered	<1 mg/l	TM045		<2 ♦ #	<2 #	<2 ♦ #			
Organic Carbon, Total	<3 mg/l	TM090		13.4 #	9.89 #	9.39 #			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	<0.2 #	0.202 #			
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099		<0.2 #	<0.2 #	0.245 #			
Sulphide	<0.01 mg/l	TM101		<0.01 ♦ #	<0.01 ♦ #	<0.01 ♦ #			
Fluoride	<0.5 mg/l	TM104		0.631 #	<0.5 #	<0.5 #			
COD, unfiltered	<7 mg/l	TM107		35.8 #	32.3 #	28.5 #			
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.0571 #	0.15 #	0.0761 #			
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.477 #	0.203 #	0.425 #			
Boron (diss.filt)	<9.4 µg/l	TM152		13.3 #	21.4 #	10.4 #			
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #			
Chromium (diss.filt)	<0.22 µg/l	TM152		0.232 #	0.872 #	0.325 #			
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	2.64 #	<0.85 #			
Lead (diss.filt)	<0.02 µg/l	TM152		0.195 #	0.021 #	<0.02 #			
Manganese (diss.filt)	<0.04 µg/l	TM152		16.5 #	75.9 #	46.9 #			
Nickel (diss.filt)	<0.15 µg/l	TM152		0.309 #	1.48 #	0.252 #			
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	<0.39 #	<0.39 #			
Zinc (diss.filt)	<0.41 µg/l	TM152		1.66 #	19.4 #	3.73 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #			
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Sulphate	<2 mg/l	TM184		<2 #	<2 #	<2 #			
Chloride	<2 mg/l	TM184		15.2 #	14.6 #	15.9 #			
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	0.108 #	<0.05 #			
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	1.01 #	<0.3 #			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	0.23 #	<0.1 #			
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1			
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #			

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	09/01/2013	09/01/2013	09/01/2013			
			Sample Time	.	.	.			
			Date Received	10/01/2013	10/01/2013	10/01/2013			
			SDG Ref	130111-76	130111-76	130111-76			
			Lab Sample No.(s)	6758685	6758690	6758687			
			AGS Reference						
Calcium (diss.filt)	<0.012 mg/l	TM228		0.268 #	18.9 #	3.5 #			
Sodium (diss.filt)	<0.076 mg/l	TM228		10.1 #	9.33 #	9.14 #			
Magnesium (diss.filt)	<0.036 mg/l	TM228		1.1 #	2.88 #	1.23 #			
Potassium (diss.filt)	<2.335 mg/l	TM228		<2.34 #	<2.34 #	<2.34 #			
Iron (diss.filt)	<0.019 mg/l	TM228		1.45 #	0.465 #	0.975 #			
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #			
pH	<1 pH Units	TM256		6.71 #	7.47 #	7.09 #			
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #			
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #			
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #			
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025			
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.0545			

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
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*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013
			SDG Ref	130111-76	130111-76	130111-76	130111-76	130111-76	130111-76
			Lab Sample No.(s)	6758691	6758693	6758688	6758694	6758692	6758686
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 ♦ #	<0.1 #	<0.1 ♦ #	<0.1 #	<2 #	<0.1 ♦ #
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 ♦ #	<0.015 #	<0.015 ♦ #	<0.015 #	<0.3 #	<0.015 ♦ #
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 ♦ #	<0.011 #	<0.011 ♦ #	<0.011 #	0.226 #	<0.011 ♦ #
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 ♦ #	<0.017 #	<0.017 ♦ #	0.127 #	1.75 #	<0.017 ♦ #
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 ♦ #	<0.015 #	<0.015 ♦ #	0.0225 #	0.488 #	<0.015 ♦ #
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 ♦ #	<0.022 #	<0.022 ♦ #	0.0686 #	1.4 #	<0.022 ♦ #
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 ♦ #	<0.014 #	<0.014 ♦ #	<0.014 #	0.287 #	<0.014 ♦ #
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 ♦ #	<0.013 #	<0.013 ♦ #	0.187 #	2.49 #	<0.013 ♦ #
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 ♦ #	<0.015 #	<0.015 ♦ #	0.829 #	2.21 #	<0.015 ♦ #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 ♦ #	<0.017 #	<0.017 ♦ #	0.132 #	2.44 #	<0.017 ♦ #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 ♦ #	<0.023 #	<0.023 ♦ #	0.256 #	2.37 #	<0.023 ♦ #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 ♦ #	<0.027 #	<0.027 ♦ #	0.119 #	1.87 #	<0.027 ♦ #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 ♦ #	<0.009 #	<0.009 ♦ #	0.344 #	2.39 #	<0.009 ♦ #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 ♦ #	<0.016 #	<0.016 ♦ #	0.0607 #	0.449 #	<0.016 ♦ #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 ♦ #	<0.016 #	<0.016 ♦ #	1.59 #	2.96 #	<0.016 ♦ #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 ♦ #	<0.014 #	<0.014 ♦ #	0.21 #	1.16 #	<0.014 ♦ #
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247 ♦	<0.247	<0.247 ♦	3.94	23.1	<0.247 ♦

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	09/01/2013	09/01/2013	09/01/2013			
			Sample Time	.	.	.			
			Date Received	10/01/2013	10/01/2013	10/01/2013			
			SDG Ref	130111-76	130111-76	130111-76			
			Lab Sample No.(s)	6758685	6758690	6758687			
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 ♦ #	<0.1 ♦ #	<0.1 #			
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 ♦ #	<0.015 ♦ #	<0.015 #			
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 ♦ #	<0.011 ♦ #	<0.011 #			
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 ♦ #	<0.017 ♦ #	<0.017 #			
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 ♦ #	<0.015 ♦ #	<0.015 #			
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 ♦ #	<0.022 ♦ #	<0.022 #			
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 ♦ #	<0.014 ♦ #	<0.014 #			
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 ♦ #	<0.013 ♦ #	<0.013 #			
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 ♦ #	<0.015 ♦ #	<0.015 #			
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 ♦ #	<0.017 ♦ #	<0.017 #			
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 ♦ #	<0.023 ♦ #	<0.023 #			
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 ♦ #	<0.027 ♦ #	<0.027 #			
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 ♦ #	<0.009 ♦ #	<0.009 #			
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 ♦ #	<0.016 ♦ #	<0.016 #			
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 ♦ #	<0.016 ♦ #	<0.016 #			
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 ♦ #	<0.014 ♦ #	<0.014 #			
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247 ♦	<0.247 ♦	<0.247			

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013	09/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013	10/01/2013
			SDG Ref	130111-76	130111-76	130111-76	130111-76	130111-76	130111-76
			Lab Sample No.(s)	6758691	6758693	6758688	6758694	6758692	6758686
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		102	106 1	108	106	101	110
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 1 #	<50 #	<50 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 1 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 1 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 1 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 1 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 1 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 1 #	<3 #	<3 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11 1	<11	<11	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28 1	<28	<28	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10	83	101	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	2920	3730	165
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	3000	3830	165
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10 1	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10	42	83	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	991	1660	14
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	1030	1750	14
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10	4050	5580	179

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	09/01/2013	09/01/2013	09/01/2013			
			Sample Time	.	.	.			
			Date Received	10/01/2013	10/01/2013	10/01/2013			
			SDG Ref	130111-76	130111-76	130111-76			
			Lab Sample No.(s)	6758685	6758690	6758687			
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		106	109	108			
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #			
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #			
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #			
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #			
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #			
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #			
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #			
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11			
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28			
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10			
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10			
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10			

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM212	SO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294		Determination of Free Sulphur in liquids by HPLC		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	6758691	6758693	6758688	6758694	6758692	6758686	6758685	6758690	6758687
Customer Sample Ref.	BH1	BH2	BH3	BH4	BH5	BH6	SW1	SW2	SW3
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Alkalinity as CaCO3	14-Jan-2013	14-Jan-2013	14-Jan-2013	21-Jan-2013	21-Jan-2013	14-Jan-2013	21-Jan-2013	14-Jan-2013	14-Jan-2013
Ammoniacal Nitrogen	22-Jan-2013	21-Jan-2013	21-Jan-2013	22-Jan-2013	21-Jan-2013	22-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013
Anions by Kone (w)	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	21-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013
BOD True Total	16-Jan-2013	17-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	17-Jan-2013	16-Jan-2013	17-Jan-2013
COD Unfiltered	13-Jan-2013	13-Jan-2013	13-Jan-2013	13-Jan-2013	13-Jan-2013	13-Jan-2013	13-Jan-2013	13-Jan-2013	13-Jan-2013
Conductivity (at 20 deg.C)	15-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	14-Jan-2013	15-Jan-2013	16-Jan-2013	16-Jan-2013
Cyanide Comp/Free/Total/Thiocyanate	16-Jan-2013	15-Jan-2013	16-Jan-2013	15-Jan-2013	15-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013
Dissolved Metals by ICP-MS	15-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	17-Jan-2013	15-Jan-2013	17-Jan-2013	17-Jan-2013
EPH CWG (Aliphatic) Aqueous GC (W)	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013
EPH CWG (Aromatic) Aqueous GC (W)	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013
Fluoride	22-Jan-2013	16-Jan-2013	16-Jan-2013	18-Jan-2013	16-Jan-2013	16-Jan-2013	22-Jan-2013	16-Jan-2013	16-Jan-2013
Free Sulphur	18-Jan-2013	16-Jan-2013	18-Jan-2013	16-Jan-2013	16-Jan-2013	18-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013
GRO by GC-FID (W)	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013
Hexavalent Chromium (w)	17-Jan-2013	14-Jan-2013	14-Jan-2013	14-Jan-2013	14-Jan-2013	14-Jan-2013	17-Jan-2013	14-Jan-2013	14-Jan-2013
Kjeldahl Nitrogen on liquids	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013
Mercury Dissolved	16-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	16-Jan-2013	17-Jan-2013	17-Jan-2013	17-Jan-2013
Metals by iCap-OES Dissolved (W)	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013
Nitrite by Kone (w)	17-Jan-2013	17-Jan-2013	18-Jan-2013	17-Jan-2013	17-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013
PAH Spec MS - Aqueous (W)	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013
pH Value	15-Jan-2013	15-Jan-2013	14-Jan-2013	14-Jan-2013	14-Jan-2013	15-Jan-2013	15-Jan-2013	14-Jan-2013	15-Jan-2013
Phenols by HPLC (W)	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013	18-Jan-2013
Sulphide	17-Jan-2013	16-Jan-2013	17-Jan-2013	17-Jan-2013	18-Jan-2013	17-Jan-2013	17-Jan-2013	17-Jan-2013	17-Jan-2013
Suspended Solids	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013	15-Jan-2013
Total Nitrogen	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013	22-Jan-2013
Total Organic and Inorganic Carbon	16-Jan-2013	15-Jan-2013	17-Jan-2013	16-Jan-2013	15-Jan-2013	16-Jan-2013	17-Jan-2013	17-Jan-2013	15-Jan-2013
TPH CWG (W)	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013	21-Jan-2013

SDG:	130111-76	**Location:**	Carrick	**Order Number:**	240467739
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	209353
Client Reference:	IBR0373	**Attention:**	Joseph McGrath	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
§	Sampled on date not provided
^	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

c/o Aramex
Bellinstown
Ballyboughal
Co Dublin
Tel : +353 (0)184 33033 (Opt 2)

RPS Consultants Ltd
Elmwood House
74 Boucher Road
Belfast

Attention: Angela McGinley

CERTIFICATE OF ANALYSIS

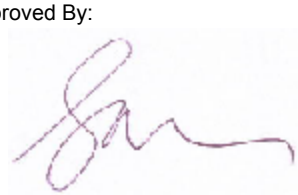
Date:	02 December 2013
Customer:	D_RPSCON_BFT
Sample Delivery Group (SDG):	131121-50
Your Reference:	IBR0373
Location:	Carrick
Report No:	252161

We received 9 samples on Wednesday November 20, 2013 and 9 of these samples were scheduled for analysis which was completed on Monday December 02, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8456298	BH1		0.00	19/11/2013
8456300	BH2		0.00	19/11/2013
8456302	BH3		0.00	19/11/2013
8456304	BH4		0.00	19/11/2013
8456305	BH5		0.00	19/11/2013
8456306	BH6		0.00	19/11/2013
8456313	SW1		0.00	19/11/2013
8456315	SW2		0.00	19/11/2013
8456317	SW3		0.00	19/11/2013

Only received samples which have had analysis scheduled will be shown on the following pages.

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

LIQUID

Results Legend

- X — Test
- N — No Determination Possible

Lab Sample No(s)			8456298						8456300						8456302						8456304						8456305						8456306						8456313			
Customer Sample Reference			BH1						BH2						BH3						BH4						BH5						BH6						SW1			
AGS Reference																																										
Depth (m)			0.00						0.00						0.00						0.00						0.00						0.00						0.00			
Container			1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	1l Glass bottle (ALE	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)
Acid Herbicides (W)	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 2			X																																					
Ammonium Low	All	NDPs: 0 Tests: 8									X						X						X						X						X						X	
Anions by Kone (w)	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
BOD True Total	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
COD Unfiltered	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9				X						X						X						X						X						X						X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
Fluoride	All	NDPs: 0 Tests: 9		X						X						X						X						X						X						X		
Free Sulphur	All	NDPs: 0 Tests: 9	X						X						X						X						X						X						X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9					X						X						X						X						X						X						

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)	8456298	8456300	8456302	8456304	8456305	8456306	8456313
Customer Sample Reference	BH1	BH2	BH3	BH4	BH5	BH6	SW1
AGS Reference							
Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Container	1l Glass bottle (ALE)	1lplastic (ALE221)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	

Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9		X						X					X					X					X					X		
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9		X						X					X					X					X					X		
Mercury Dissolved	All	NDPs: 0 Tests: 9	X						X					X					X					X					X			
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9		X						X					X					X					X					X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9				X					X					X					X					X					X		X
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9	X						X					X					X					X					X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9	X						X					X					X					X					X			
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9	X						X					X					X					X					X			
pH Value	All	NDPs: 0 Tests: 9		X						X					X					X					X					X		
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9			X						X					X					X					X					X	
Sulphide	All	NDPs: 0 Tests: 9					X					X					X					X					X						
Suspended Solids	All	NDPs: 0 Tests: 9		X						X					X					X					X					X		
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X						X					X					X					X					X			
Total Nitrogen	All	NDPs: 0 Tests: 9		X						X					X					X					X					X		
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9	X						X					X					X					X					X			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
TPH CWG (W)	All	NDPs: 0 Tests: 9	8456298	BH1		0.00	1l Glass bottle (ALE)
			8456300	BH2		0.00	1l Glass bottle (ALE)
			8456302	BH3		0.00	1l Glass bottle (ALE)
			8456304	BH4		0.00	1l Glass bottle (ALE)
			8456305	BH5		0.00	1l Glass bottle (ALE)
			8456306	BH6		0.00	1l Glass bottle (ALE)
			8456313	SW1		0.00	1l Glass bottle (ALE)
VOC MS (W)	All	NDPs: 0 Tests: 9					Vial (ALE297)
							Vial (ALE297)
							Vial (ALE297)
							Vial (ALE297)
							Vial (ALE297)
							Vial (ALE297)
							Vial (ALE297)

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			8456313	8456315	8456317
Customer Sample Reference			SW1	SW2	SW3
AGS Reference					
Depth (m)			0.00	0.00	0.00
Container			Vial (ALE297) / ZnAc (ALE246)	1l Glass bottle (ALE / 1lplastic (ALE221) / H2SO4 (ALE244) / NaOH (ALE245) / Vial (ALE297) / ZnAc (ALE246)	1l Glass bottle (ALE / 1lplastic (ALE221) / H2SO4 (ALE244) / NaOH (ALE245) / Vial (ALE297) / ZnAc (ALE246)
Acid Herbicides (W)	All	NDPs: 0 Tests: 9		X	X
Alkalinity as CaCO3	All	NDPs: 0 Tests: 9		X	X
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 2		X	
Ammonium Low	All	NDPs: 0 Tests: 8		X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 9		X	X
BOD True Total	All	NDPs: 0 Tests: 9		X	X
COD Unfiltered	All	NDPs: 0 Tests: 9		X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 9		X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9		X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 9		X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9		X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 9		X	X
Fluoride	All	NDPs: 0 Tests: 9		X	X
Free Sulphur	All	NDPs: 0 Tests: 9		X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8456313	SW1		0.00	Vial (ALE297)
							ZnAc (ALE246)
							1l Glass bottle (ALE
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			8456315	SW2		0.00	Vial (ALE297)
							ZnAc (ALE246)
							1l Glass bottle (ALE
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			8456317	SW3		0.00	Vial (ALE297)
							ZnAc (ALE246)
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 9					X X
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 9					X X
Mercury Dissolved	All	NDPs: 0 Tests: 9					X X
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 9					X X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 9					X X
OC, OP Pesticides and Triazine Herb	All	NDPs: 0 Tests: 9					X X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 9					X X
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 9					X X
pH Value	All	NDPs: 0 Tests: 9					X X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 9					X X
Sulphide	All	NDPs: 0 Tests: 9					X X X
Suspended Solids	All	NDPs: 0 Tests: 9					X X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9					X X
Total Nitrogen	All	NDPs: 0 Tests: 9					X X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 9					X X

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8456313	SW1		0.00	Vial (ALE297)
							ZnAc (ALE246)
							1l Glass bottle (ALE
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
			8456315	SW2		0.00	Vial (ALE297)
							ZnAc (ALE246)
							1l Glass bottle (ALE
							1lplastic (ALE221)
							H2SO4 (ALE244)
							NaOH (ALE245)
							Vial (ALE297)
			8456317	SW3		0.00	ZnAc (ALE246)
TPH CWG (W)	All	NDPs: 0 Tests: 9					
				X			
							X
VOC MS (W)	All	NDPs: 0 Tests: 9					
			X				
						X	
							X

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		118 #	21 #	3670 #	224 #	5180 #	644 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043		165 #	50 #	33.7 #	50 #	43.6 #	85 #
BOD, unfiltered	<1 mg/l	TM045		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.58 #	5.71 #	<1 #
Organic Carbon, Total	<3 mg/l	TM090		4.92 #	4.24 #	3.28 #	4.59 #	3.68 #	9.75 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #					
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099			0.0912 #	0.135 #	0.639 #	0.126 #	0.641 #
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #	0.049 #	<0.01 #	<0.01 #
Fluoride	<0.5 mg/l	TM104		<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
COD, unfiltered	<7 mg/l	TM107		43.9 #	19 #	496 #	104 #	1480 #	308 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.334 #	0.137 #	0.135 #	0.146 #	0.142 #	0.201 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.227 #	1.05 #	1.11 #	0.365 #	1.08 #	0.85 #
Boron (diss.filt)	<9.4 µg/l	TM152		22.2 #	20.4 #	20.7 #	46.9 #	35.2 #	57.2 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		0.336 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Chromium (diss.filt)	<0.22 µg/l	TM152		3.12 #	1.52 #	1.66 #	2.63 #	2.68 #	2.81 #
Copper (diss.filt)	<0.85 µg/l	TM152		2.39 #	<0.85 #	<0.85 #	<0.85 #	<0.85 #	3.69 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.045 #	1.1 #	0.093 #	0.102 #	0.424 #	1.65 #
Manganese (diss.filt)	<0.04 µg/l	TM152		2510 #	1740 #	1860 #	2080 #	1620 #	96.7 #
Nickel (diss.filt)	<0.15 µg/l	TM152		7.63 #	2.13 #	2.59 #	5.07 #	2.75 #	0.989 #
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	<0.39 #	<0.39 #	<0.39 #	<0.39 #	0.694 #
Zinc (diss.filt)	<0.41 µg/l	TM152		34.7 #	5.22 #	2.35 #	36 #	82.6 #	12.7 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	0.0118 #	<0.01 #	0.0207 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.5 #	<0.05 #
Chloride	<2 mg/l	TM184		22.9 #	19.7 #	20 #	20.7 #	20.5 #	18.3 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	<0.3 #	<0.3 #	1.88 #	1.74 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	<0.1 #	0.419 #	0.407 #
PCB congener 118	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 77	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
PCB congener 126	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	1.15
Cyanide, Total	<0.05 mg/l	TM227		<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #
Thiocyanate	<0.05 mg/l	TM227		<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #
Calcium (diss.filt)	<0.012 mg/l	TM228		53 #	4.27 #	9.14 #	10.4 #	13.2 #	21.5 #
Sodium (diss.filt)	<0.076 mg/l	TM228		14.8 #	13 #	12.9 #	13 #	12.8 #	12.3 #
Magnesium (diss.filt)	<0.036 mg/l	TM228		4.58 #	1.95 #	1.76 #	2.72 #	2.17 #	4.86 #
Potassium (diss.filt)	<1 mg/l	TM228		1.14 #	<1 #	<1 #	<1 #	<1 #	3.62 #
Iron (diss.filt)	<0.019 mg/l	TM228		0.108 #	16.8 #	14 #	13.2 #	14 #	0.401 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
pH	<1 pH Units	TM256		7.03 #	6.52 #	6.48 #	6.48 #	6.24 #	6.72 #
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #	<0.008 #
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #	<0.003 #
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #	<0.006 #
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		<2 #	8.75 #	<2 #			
Alkalinity, Total as CaCO3	<2 mg/l	TM043		2.5 #	34.5 #	8 #			
BOD, unfiltered	<1 mg/l	TM045		<1 #	<1 #	<1 #			
Organic Carbon, Total	<3 mg/l	TM090		7.84 #	10.3 #	6.49 #			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099			<0.2 #				
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099		0.0355 #	0.0418 #	0.0549 #			
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #			
Fluoride	<0.5 mg/l	TM104		<0.5 #	<0.5 #	<0.5 #			
COD, unfiltered	<7 mg/l	TM107		19.2 #	38.7 #	14.8 #			
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		0.0887 #	0.147 #	0.101 #			
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.154 #	0.144 #	0.254 #			
Boron (diss.filt)	<9.4 µg/l	TM152		27 #	53 #	30.2 #			
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #			
Chromium (diss.filt)	<0.22 µg/l	TM152		0.274 #	1.1 #	0.427 #			
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	1.93 #	<0.85 #			
Lead (diss.filt)	<0.02 µg/l	TM152		0.08 #	0.186 #	0.103 #			
Manganese (diss.filt)	<0.04 µg/l	TM152		18.7 #	92.4 #	41.2 #			
Nickel (diss.filt)	<0.15 µg/l	TM152		0.152 #	1.09 #	0.255 #			
Selenium (diss.filt)	<0.39 µg/l	TM152		<0.39 #	<0.39 #	<0.39 #			
Zinc (diss.filt)	<0.41 µg/l	TM152		4.68 #	14.9 #	3.18 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	0.0208 #	<0.01 #			
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Chloride	<2 mg/l	TM184		24.4 #	24.9 #	25.5 #			
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		<0.05 #	0.058 #	<0.05 #			
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	0.326 #	<0.3 #			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #			
PCB congener 118	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 77	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 81	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 105	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 114	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 123	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
PCB congener 126	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 156	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 157	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 167	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 169	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
PCB congener 189	<0.015 µg/l	TM197		<0.015	<0.015	<0.015			
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1			
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Nitrogen, Total	<1 mg/l	TM212		<1	<1	<1			
Cyanide, Total	<0.05 mg/l	TM227		<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #			
Thiocyanate	<0.05 mg/l	TM227		<0.05 ♦ #	<0.05 ♦ #	<0.05 ♦ #			
Calcium (diss.filt)	<0.012 mg/l	TM228		1.28 #	13.5 #	3.96 #			
Sodium (diss.filt)	<0.076 mg/l	TM228		12.8 #	12.9 #	13.3 #			
Magnesium (diss.filt)	<0.036 mg/l	TM228		1.63 #	2.44 #	1.68 #			
Potassium (diss.filt)	<1 mg/l	TM228		<1 #	<1 #	<1 #			
Iron (diss.filt)	<0.019 mg/l	TM228		1.03 #	0.513 #	0.554 #			
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03 #	<0.03 #	<0.03 #			
pH	<1 pH Units	TM256		5.47 #	7.27 #	6.84 #			
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #	<0.002 #			
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #	<0.008 #			
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #	<0.003 #			
2-Isopropylphenol	<0.006 mg/l	TM259		<0.006 #	<0.006 #	<0.006 #			
Phenols, Total Detected 5 speciated	<0.025 mg/l	TM259		<0.025	<0.025	<0.025			
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05	<0.05			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Acid Herbicides (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Phenoxyacetic acid (PAA)	<0.031 µg/l	TM186		<0.031 #	<0.031 #	<0.031 #	<0.031 #	<0.031 #	<0.031 #
Dicamba	<0.033 µg/l	TM186		<0.033 #	<0.033 #	<0.033 #	<0.033 #	<0.033 #	<0.033 #
Phenoxypropionic acid (PPA)	<0.023 µg/l	TM186		<0.023	<0.023	<0.023	<0.023	<0.023	<0.023
4-Chlorophenoxyacetic acid (4-CPA)	<0.037 µg/l	TM186		<0.037 #	<0.037 #	<0.037 #	<0.037 #	<0.037 #	<0.037 #
4-Phenoxybutyric acid	<0.019 µg/l	TM186		<0.019 #	<0.019 #	<0.019 #	<0.019 #	<0.019 #	<0.019 #
Bentazone	<0.018 µg/l	TM186		<0.018 #	<0.018 #	<0.018 #	<0.018 #	<0.018 #	<0.018 #
Bromoxynil	<0.022 µg/l	TM186		<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
2,4-Dichlorophenoxy acetic acid (2,4-D)	<0.026 µg/l	TM186		<0.026 #	<0.026 #	<0.026 #	<0.026 #	<0.026 #	<0.026 #
2-methyl-4-Chlorophenoxy acetic acid (MCPA)	<0.03 µg/l	TM186		<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
2-methyl-4,6-Dinitrophenol	<0.041 µg/l	TM186		<0.041	<0.041	<0.041	<0.041	<0.041	<0.041
Triclopyr	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #	<0.022 #	<0.022 #	<0.022 #
Ioxynil	<0.017 µg/l	TM186		<0.017	<0.017	<0.017	<0.017	<0.017	<0.017
2,4-Dichlorophenoxy propanoic acid (2,4-DP)	<0.015 µg/l	TM186		<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.015 #
2,4,5-Trichlorophenol (2,4,5-T)	<0.029 µg/l	TM186		<0.029 #	<0.029 #	<0.029 #	<0.029 #	<0.029 #	<0.029 #
Mecoprop (MCPP)	<0.025 µg/l	TM186		<0.025	<0.025	<0.025	<0.025	<0.025	<0.025
4-(2,4-Dichlorophenoxy) butyric acid (2,4-DB)	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #	<0.022 #	<0.022 #	<0.022 #
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	<0.029 µg/l	TM186		<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
2-(2,4,5-Trichlorophenoxy) proprionic acid	<0.024 µg/l	TM186		<0.024 #	<0.024 #	<0.024 #	<0.024 #	<0.024 #	<0.024 #
Dinoseb	<0.027 µg/l	TM186		<0.027	<0.027	<0.027	<0.027	<0.027	<0.027
Pentachlorophenol	<0.032 µg/l	TM186		<0.032	<0.032	<0.032	<0.032	<0.032	<0.032

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Acid Herbicides (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Phenoxyacetic acid (PAA)	<0.031 µg/l	TM186		<0.031 #	<0.031 #	<0.031 #			
Dicamba	<0.033 µg/l	TM186		<0.033 #	<0.033 #	<0.033 #			
Phenoxypropionic acid (PPA)	<0.023 µg/l	TM186		<0.023	<0.023	<0.023			
4-Chlorophenoxyacetic acid (4-CPA)	<0.037 µg/l	TM186		<0.037 #	<0.037 #	<0.037 #			
4-Phenoxybutyric acid	<0.019 µg/l	TM186		<0.019 #	<0.019 #	<0.019 #			
Bentazone	<0.018 µg/l	TM186		<0.018 #	<0.018 #	<0.018 #			
Bromoxynil	<0.022 µg/l	TM186		<0.022	<0.022	<0.022			
2,4-Dichlorophenoxy acetic acid (2,4-D)	<0.026 µg/l	TM186		<0.026 #	<0.026 #	<0.026 #			
2-methyl-4-Chlorophenoxy acetic acid (MCPA)	<0.03 µg/l	TM186		<0.03 #	<0.03 #	<0.03 #			
2-methyl-4,6-Dinitrophenol	<0.041 µg/l	TM186		<0.041	<0.041	<0.041			
Triclopyr	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #			
Ioxynil	<0.017 µg/l	TM186		<0.017	<0.017	<0.017			
2,4-Dichlorophenoxy propanoic acid (2,4-DP)	<0.015 µg/l	TM186		<0.015 #	<0.015 #	<0.015 #			
2,4,5-Trichlorophenol (2,4,5-T)	<0.029 µg/l	TM186		<0.029 #	<0.029 #	<0.029 #			
Mecoprop (MCPP)	<0.025 µg/l	TM186		<0.025	<0.025	<0.025			
4-(2,4-Dichlorophenoxy) butyric acid (2,4-DB)	<0.022 µg/l	TM186		<0.022 #	<0.022 #	<0.022 #			
4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	<0.029 µg/l	TM186		<0.029	<0.029	<0.029			
2-(2,4,5-Trichlorophenoxy) proprionic acid	<0.024 µg/l	TM186		<0.024 #	<0.024 #	<0.024 #			
Dinoseb	<0.027 µg/l	TM186		<0.027	<0.027	<0.027			
Pentachlorophenol	<0.032 µg/l	TM186		<0.032	<0.032	<0.032			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
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1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Atrazine	<1 µg/l	TM231		<1	<1	<1	<1	<1	<1
Simazine	<1 µg/l	TM231		<1	<1	<1	<1	<1	<1
Dichlorvos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mevinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tecnazene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hexachlorobenzene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Trifluralin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Quintozene (PCNB)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Diazinon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triallate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Etrimphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Disulfoton	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Propetamphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Heptachlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorpyriphos methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dimethoate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorothalonil	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pirimiphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorpyriphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Telodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Isodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Malathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fenthion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fenitrothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Heptachlor epoxide	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triadimefon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pendimethalin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
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Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorfenvinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endosulphan I	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Trans-chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
cis-Chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dieldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Ethion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endosulphan II	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Carbophenothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
o,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triazophos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
p,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Endosulphan sulphate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Permethrin I	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phosalone	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Permethrin II	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Azinphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Azinphos-ethyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Atrazine	<1 µg/l	TM231		<1	<1	<1			
Simazine	<1 µg/l	TM231		<1	<1	<1			
Dichlorvos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Mevinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Tecnazene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Hexachlorobenzene	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Trifluralin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
alpha-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Quintozene (PCNB)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Diazinon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Triallate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Etrimphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
gamma-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Disulfoton	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Propetamphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Heptachlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorpyriphos methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Dimethoate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Aldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorothalonil	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Pirimiphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
beta-Hexachlorocyclohexane (HCH / Lindane)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorpyriphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Telodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Methyl parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Isodrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Malathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Fenthion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Fenitrothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Heptachlor epoxide	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Triadimefon	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Pendimethalin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

OC, OP Pesticides and Triazine Herb

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Parathion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Chlorfenvinphos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endosulphan I	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Trans-chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
cis-Chlordane	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-DDE	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Dieldrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endrin	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-TDE (DDD)	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Ethion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endosulphan II	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-DDT	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Carbophenothion	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
o,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Triazophos	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
p,p-Methoxychlor	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Endosulphan sulphate	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Permethrin I	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Phosalone	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Permethrin II	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Azinphos-methyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			
Azinphos-ethyl	<0.01 µg/l	TM231		<0.01	<0.01	<0.01			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<1 #	<0.1 #
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.15 #	<0.015 #
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #	<0.011 #	<0.011 #	<0.11 #	<0.011 #
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #	<0.017 #	<0.17 #	<0.017 #
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	<0.015 #	<0.15 #	<0.015 #
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #	<0.022 #	<0.022 #	<0.22 #	<0.022 #
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #	<0.014 #	<0.14 #	<0.014 #
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #	<0.013 #	0.0333 #	0.177 #	<0.013 #
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #	0.235 #	0.213 #	<0.015 #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #	<0.017 #	<0.17 #	<0.017 #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #	<0.023 #	0.0467 #	<0.23 #	<0.023 #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #	<0.027 #	<0.027 #	<0.27 #	<0.027 #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #	<0.009 #	0.067 #	0.157 #	<0.009 #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.16 #	<0.016 #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #	0.332 #	0.206 #	<0.016 #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #	0.0291 #	<0.14 #	<0.014 #
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247	<0.247	<0.247	0.743	<2.47	<0.247

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	<0.1 #	<0.1 #			
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #	<0.011 #			
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #			
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #	<0.022 #			
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #			
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #	<0.013 #			
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #	<0.015 #			
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #	<0.017 #			
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #	<0.023 #			
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #	<0.027 #			
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #	<0.009 #			
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #			
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #	<0.016 #			
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #	<0.014 #			
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178		<0.247	<0.247	<0.247			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

TPH CWG (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		116	117	124	122	112	113
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11	<11	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10	10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10	10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10	33	22	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	1080	810	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	1130	832	<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10	24	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	390	364	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	414	364	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10	1570	1210	<10

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		119	99 1	126			
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 1 #	<50 #			
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 1 #	<3 #			
Benzene	<7 µg/l	TM245		<7 #	<7 1 #	<7 #			
Toluene	<4 µg/l	TM245		<4 #	<4 1 #	<4 #			
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 1 #	<5 #			
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 1 #	<8 #			
o-Xylene	<3 µg/l	TM245		<3 #	<3 1 #	<3 #			
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11 1	<11			
Sum of detected BTEX	<28 µg/l	TM245		<28	<28 1	<28			
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10 1	<10			
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10 1	<10			
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10 1	<10			
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10 1	<10			
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10 1	<10			
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10 1	<10			
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10 1	<10			
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10 1	<10			
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10			
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10			
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
Dibromofluoromethane**	%	TM208		111	110	111	109	111	109
Toluene-d8**	%	TM208		98.8	99.4	99.8	98.5	97.4	99.1
4-Bromofluorobenzene**	%	TM208		96.8	97	97.3	96.1	91	95.5
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH1	BH2	BH3	BH4	BH5	BH6
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013	19/11/2013
			Sample Time	.	.	.	.	.	.
			Date Received	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013	20/11/2013
			SDG Ref	131121-50	131121-50	131121-50	131121-50	131121-50	131121-50
			Lab Sample No.(s)	8456298	8456300	8456302	8456304	8456305	8456306
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
Dibromofluoromethane**	%	TM208		109	108	110			
Toluene-d8**	%	TM208		100	99.6	99.8			
4-Bromofluorobenzene**	%	TM208		97.2	97.7	97.5			
Dichlorodifluoromethane	<1 µg/l	TM208		<1	<1	<1			
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #			
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1			
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichloroethane	<1 µg/l	TM208		<1	<1	<1			
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1	<1	<1			
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,2-Dichlorobenzene	<1 µg/l	TM208		<1	<1	<1			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1			
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #			
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SW1	SW2	SW3			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/11/2013	19/11/2013	19/11/2013			
			Sample Time	.	.	.			
			Date Received	20/11/2013	20/11/2013	20/11/2013			
			SDG Ref	131121-50	131121-50	131121-50			
			Lab Sample No.(s)	8456313	8456315	8456317			
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples		
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water		
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM186	Determination of Acidic Herbicides in Groundwater and Potable Water by LC/MSD Using Selective Ion Monitoring. Agilent Technologies Inc. Application Note 5988-5882EN.	The Determination of Acid Herbicides in Environmental Water Samples and Leachates by LC/MS QQQ.		
TM197	Modified: US EPA Method 8082.EA Method 174 and 5109631	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM212	SO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM231	Agilent 6890 Gas Chromatograph system using an Agilent 5973 Mass Selective Detector (MSD)	Determination of Organochlorine and Organophosphorus Pesticides and Triazine Herbicides by GCMS		
TM239	Sulphide in Waters and Effluents 1983 (Tentative Methods) HMSO 1983, ISBN 011 7517186	Determination of Easily Liberated Sulphide in Waste waters		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294		Determination of Free Sulphur in liquids by HPLC		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8456298	8456300	8456302	8456304	8456305	8456306	8456313	8456315	8456317
Customer Sample Ref.	BH1	BH2	BH3	BH4	BH5	BH6	SW1	SW2	SW3
AGS Ref.									
Depth	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Acid Herbicides (W)	29-Nov-2013	29-Nov-2013	29-Nov-2013	29-Nov-2013	29-Nov-2013	29-Nov-2013	29-Nov-2013	29-Nov-2013	29-Nov-2013
Alkalinity as CaCO3	22-Nov-2013	22-Nov-2013	27-Nov-2013	22-Nov-2013	27-Nov-2013	25-Nov-2013	24-Nov-2013	24-Nov-2013	24-Nov-2013
Ammoniacal Nitrogen	28-Nov-2013							26-Nov-2013	
Ammonium Low		02-Dec-2013	02-Dec-2013	27-Nov-2013	02-Dec-2013	27-Nov-2013	02-Dec-2013	29-Nov-2013	02-Dec-2013
Anions by Kone (w)	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	26-Nov-2013	27-Nov-2013	27-Nov-2013	26-Nov-2013	26-Nov-2013
BOD True Total	27-Nov-2013	27-Nov-2013	27-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013
COD Unfiltered	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013
Conductivity (at 20 deg.C)	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013
Cyanide Comp/Free/Total/Thiocyanate	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013
Dissolved Metals by ICP-MS	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013
EPH CWG (Aliphatic) Aqueous GC (W)	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
EPH CWG (Aromatic) Aqueous GC (W)	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
Fluoride	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013
Free Sulphur	25-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013	26-Nov-2013
GRO by GC-FID (W)	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	23-Nov-2013	26-Nov-2013	23-Nov-2013
Hexavalent Chromium (w)	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013
Kjeldahl Nitrogen on liquids	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013
Mercury Dissolved	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
Metals by iCap-OES Dissolved (W)	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013
Nitrite by Kone (w)	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	26-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013
OC, OP Pesticides and Triazine Herb	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
PAH Spec MS - Aqueous (W)	28-Nov-2013	27-Nov-2013	28-Nov-2013	27-Nov-2013	27-Nov-2013	28-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
PCB Congeners - Aqueous (W)	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013
pH Value	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013	22-Nov-2013
Phenols by HPLC (W)	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013
Sulphide	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
Suspended Solids	22-Nov-2013	22-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	22-Nov-2013	25-Nov-2013	22-Nov-2013
SVOC MS (W) - Aqueous	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
Total Nitrogen	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013	28-Nov-2013
Total Organic and Inorganic Carbon	22-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013
TPH CWG (W)	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013	27-Nov-2013
VOC MS (W)	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013	25-Nov-2013

SDG:	131121-50	**Location:**	Carrick	**Order Number:**	
Job:	D_RPSCON_BFT-78	**Customer:**	RPS Consultants Ltd	**Report Number:**	252161
Client Reference:	IBR0373	**Attention:**	Angela McGinley	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
§	**Sampled on date not provided**
#	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Appendix D
Groundwater & Surface Water Laboratory Analytical Results – Rounds 5-6 (2020)

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

RPS Consultants Ltd
Enterprise Fund Business Centre
Ballyraine
Letterkenny

Attention: Michael Crawford

CERTIFICATE OF ANALYSIS

Date of report Generation:	19 October 2020
Customer:	RPS Consultants Ltd
Sample Delivery Group (SDG):	201009-93
Your Reference:	IBR1266
Location:	Corrick
Report No:	571669

We received 7 samples on Friday October 09, 2020 and 7 of these samples were scheduled for analysis which was completed on Monday October 19, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23000161	BH01			06/10/2020
23000162	BH02			06/10/2020
23000163	BH03			06/10/2020
23000164	BH06			06/10/2020
23000165	SW1			06/10/2020
23000166	SW2			06/10/2020
23000167	SW3			06/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)																						23000161	23000162	23000163
Customer Sample Reference																						BH01	BH02	BH03
AGS Reference																								
Depth (m)																								
Container																						0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)
Sample Type																						GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 7																					X	
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 7																						
Ammonium Low	All	NDPs: 0 Tests: 7																						
Anions by Kone (w)	All	NDPs: 0 Tests: 7																					X	
BOD True Total	All	NDPs: 0 Tests: 7																						
COD Unfiltered	All	NDPs: 0 Tests: 7																						
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 7																					X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7																						
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 7																						
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 7																				X		X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7																						
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7																						
Fluoride	All	NDPs: 0 Tests: 7																					X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7																						
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 7																					X	

23000165	SW1			500ml Plastic (ALE208)	SW	X			X			X						X		X
				250ml BOD (ALE212)	SW					X	X									
				250ml Amber Gl. PTFE/PE (ALE219)	SW											X	X			
				0.5l glass bottle (ALE227)	SW										X					
23000164	BH06			ZnAc (ALE246)	GW															
				Vial (ALE297)	GW														X	
				NaOH (ALE245)	GW								X							
				HNO3 Filtered (ALE204)	GW									X						
				H2SO4 (ALE244)	GW		X	X												
				500ml Plastic (ALE208)	GW	X			X			X						X		X
				250ml BOD (ALE212)	GW					X	X									
				250ml Amber Gl. PTFE/PE (ALE219)	GW											X	X			
				0.5l glass bottle (ALE227)	GW										X					
23000163	BH03			ZnAc (ALE246)	GW															
				Vial (ALE297)	GW														X	
				NaOH (ALE245)	GW								X							
				HNO3 Filtered (ALE204)	GW									X						
				H2SO4 (ALE244)	GW		X	X												
				500ml Plastic (ALE208)	GW	X			X			X						X		X
				250ml BOD (ALE212)	GW					X	X									
				250ml Amber Gl. PTFE/PE (ALE219)	GW											X	X			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)																						23000161	23000162	23000163
Customer Sample Reference																						BH01	BH02	BH03
AGS Reference																								
Depth (m)																								
Container																						0.5l glass bottle (ALE227)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
																						PTFE/PE (ALE219)		PTFE/PE (ALE219)
																						250ml Amber Gl. (ALE212)		250ml Amber Gl. (ALE212)
																						250ml BOD (ALE208)		250ml BOD (ALE208)
																						500ml Plastic (ALE244)		500ml Plastic (ALE244)
																						H2SO4 (ALE204)		H2SO4 (ALE204)
																						HNO3 Filtered (ALE245)		HNO3 Filtered (ALE245)
																						NaOH (ALE297)		NaOH (ALE297)
																						Vial (ALE246)		Vial (ALE246)
																						ZnAc (ALE227)		0.5l glass bottle (ALE227)
Sample Type																						GW	GW	GW
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 7					X												X					
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 7						X												X				
Low Level TOC	All	NDPs: 0 Tests: 7						X												X				
Mercury Dissolved	All	NDPs: 0 Tests: 7							X										X					
Nitrite by Kone (w)	All	NDPs: 0 Tests: 7								X										X				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 7		X											X									
pH Value	All	NDPs: 0 Tests: 7					X												X					
Phosphate by Kone (w)	All	NDPs: 0 Tests: 7					X												X					
Sulphide	All	NDPs: 0 Tests: 7										X											X	
Suspended Solids	All	NDPs: 0 Tests: 7					X												X					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7	X										X											X
Total Nitrogen	All	NDPs: 0 Tests: 7					X												X					
TPH CWG (W)	All	NDPs: 0 Tests: 7	X										X											X
VOC MS (W)	All	NDPs: 0 Tests: 7								X											X			

23000165	SW1			500ml Plastic (ALE208)	SW	X						X	X		X		X		
				250ml BOD (ALE212)	SW														
				250ml Amber Gl. PTFE/PE (ALE219)	SW						X								
				0.5l glass bottle (ALE227)	SW											X		X	
23000164	BH06			ZnAc (ALE246)	GW									X					
				Vial (ALE297)	GW														X
				NaOH (ALE245)	GW					X									
				HNO3 Filtered (ALE204)	GW				X										
				H2SO4 (ALE244)	GW		X	X											
				500ml Plastic (ALE208)	GW	X						X	X		X		X		
				250ml BOD (ALE212)	GW														
				250ml Amber Gl. PTFE/PE (ALE219)	GW						X								
				0.5l glass bottle (ALE227)	GW											X		X	
23000163	BH03			ZnAc (ALE246)	GW									X					
				Vial (ALE297)	GW														X
				NaOH (ALE245)	GW					X									
				HNO3 Filtered (ALE204)	GW				X										
				H2SO4 (ALE244)	GW		X	X											
				500ml Plastic (ALE208)	GW	X						X	X		X		X		
				250ml BOD (ALE212)	GW														
				250ml Amber Gl. PTFE/PE (ALE219)	GW						X								

Validated

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)							23000165									23000166					23000167
Customer Sample Reference							SW1									SW2					SW3
AGS Reference																					
Depth (m)																					
Container			H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 7									X									X	
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 7	X									X									X
Ammonium Low	All	NDPs: 0 Tests: 7	X									X									X
Anions by Kone (w)	All	NDPs: 0 Tests: 7									X									X	
BOD True Total	All	NDPs: 0 Tests: 7								X									X		
COD Unfiltered	All	NDPs: 0 Tests: 7								X									X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 7									X									X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7			X									X							
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 7		X									X								
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 7						X									X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7							X									X			
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7							X									X			
Fluoride	All	NDPs: 0 Tests: 7									X									X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7				X									X						
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 7									X									X	

				23000167
				SW3
HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	
SW	SW	SW	SW	
	X			
X				
		X		

CERTIFICATE OF ANALYSIS

SDG: 201009-93	**Client Reference:** IBR1266	**Report Number:** 571669	
Location: Corrick	**Order Number:**	**Superseded Report:**	

Results Legend

- X Test
- N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23000165									23000166									23000167
Customer Sample Reference			SW1									SW2									SW3
AGS Reference																					
Depth (m)																					
Container			H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 7									X									X	
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 7	X									X									X
Low Level TOC	All	NDPs: 0 Tests: 7	X									X									X
Mercury Dissolved	All	NDPs: 0 Tests: 7		X									X								
Nitrite by Kone (w)	All	NDPs: 0 Tests: 7			X									X							
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 7							X									X			
pH Value	All	NDPs: 0 Tests: 7									X									X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 7									X									X	
Sulphide	All	NDPs: 0 Tests: 7					X									X					
Suspended Solids	All	NDPs: 0 Tests: 7									X									X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7						X									X				
Total Nitrogen	All	NDPs: 0 Tests: 7									X									X	
TPH CWG (W)	All	NDPs: 0 Tests: 7						X									X				
VOC MS (W)	All	NDPs: 0 Tests: 7				X									X						

				23000167
				SW3
HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	
SW	SW	SW	SW	
X				
	X			
			X	
		X		

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		51.1 #	25.5 #	5660 #	1380 #	<2 #	6.79 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043		85 #	50 #	40 #	120 #	<2 #	50 #
BOD, unfiltered	<1 mg/l	TM045		<1 @ #	<1 @ #	<3 @ #	<1 @ #	<1 @ #	2.2 @ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090		7.99	6.24	<3	3.33	13.9	16.9
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		0.738 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099		0.773 #	0.0962 #	0.134 #	0.0806 #	0.0276 #	0.0262 #
Sulphide	<0.01 mg/l	TM101		0.0274 #	0.0198 #	0.114 #	0.0858 #	<0.01	<0.01
Fluoride	<0.5 mg/l	TM104		<0.5 #	2.18 #	1.93 #	<0.5 #	0.503	<0.5
COD, unfiltered	<7 mg/l	TM107		41.2 #	21.9 #	174 #	389 #	35.3 #	41.3 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120		0.206 #	0.168 #	0.158 #	0.297 #	0.0732 #	0.114 #
Aluminium (diss.filt)	<10 µg/l	TM152		92.7 #	18.1 #	<10 #	18.8 #	93.4 #	110 #
Antimony (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		<0.5 #	1.41 #	1.51 #	0.807 #	<0.5 #	<0.5 #
Barium (diss.filt)	<0.2 µg/l	TM152		17 #	6.42 #	7.15 #	30.2 #	0.923 #	24.7 #
Beryllium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Boron (diss.filt)	<10 µg/l	TM152		<10 #	11 #	<10 #	56.4 #	<10 #	15.8 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		0.165 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		1.02 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		3.54 #	<0.3 #	<0.3 #	3 #	0.427 #	1.36 #
Lead (diss.filt)	<0.2 µg/l	TM152		1.03 #	<0.2 #	<0.2 #	0.351 #	0.246 #	0.368 #
Manganese (diss.filt)	<3 µg/l	TM152		1380 #	3010 #	2840 #	122 #	10.9 #	138 #
Molybdenum (diss.filt)	<3 µg/l	TM152		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152		7.5 #	2.38 #	3.07 #	0.796 #	<0.4 #	1.29 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		43.3 #	12.6 #	9.05 #	9.95 #	4.78 #	17 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152		10.8 #	13 #	12.9 #	14.7 #	10.3 #	9.45 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		3.13 #	2.51 #	2.35 #	6.91 #	1.13 #	2.08 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152		0.585 #	0.751 #	0.627 #	3.71 #	0.283 #	0.732 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152		19.3 #	5.27 #	8.72 #	42.3 #	0.888 #	12 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		1.19 #	20.3 #	24.6 #	0.0653 #	1.27 #	0.779 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
Sulphate	<2 mg/l	TM184		3.3 #	3.7 #	2.9 #	18.8 #	<2 #	<2 #
Chloride	<2 mg/l	TM184		20.4 #	28.9 #	27.5 #	25.9 #	18.1 #	15.7 #
Phosphate (Ortho as P)	<0.02 mg/l	TM184		<0.02 #	<0.02 #	<0.02 #	<0.02 #	<0.02 #	<0.02 #
Nitrate as NO3	<0.3 mg/l	TM184		0.437	<0.3	<0.3	2.53	<0.3	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	0.575 #	<0.1 #	<0.1 #
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1	<1	<1	1.15
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	1.1
Nitrogen, Total	<1 mg/l	TM212		<1 #	<1 #	<1 #	1.36 #	<1 #	1.15 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05	<0.05
Phenol (low level)	<0.5 µg/l	TM255		<5	<0.5	<0.5	<0.5	<0.5	<0.5
Cresols (low level)	<0.5 µg/l	TM255		<5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenols (low level)	<0.5 µg/l	TM255		<5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of Detected Monohydric Phenols	<0.5 µg/l	TM255		<5	<0.5	<0.5	<0.5	<0.5	<0.5
pH	<1 pH Units	TM256		6.25 #	6.22 #	6.05 #	6.3 #	4.73 #	6.96 #
Organic Carbon, Total Low Level	<0.1 mg/l	TM295		59.5 @ #	5.6 @ #	11.1 @ #	43.5 @ #	14.3 @ #	14.5 @ #
Low Level Hexavalent Chromium	<0.003 mg/l	TM331		<0.003	<0.015	<0.015	<0.003	<0.015	<0.015

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/10/2020
Sample Time	01:30:00
Date Received	09/10/2020
SDG Ref	201009-93
Lab Sample No.(s)	23000167
AGS Reference	

Component	LOD/Units	Method	
Suspended solids, Total	<2 mg/l	TM022	4.05 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043	6.5 #
BOD, unfiltered	<1 mg/l	TM045	<1 @ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090	10.2
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2 #
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.081 #
Sulphide	<0.01 mg/l	TM101	<0.01
Fluoride	<0.5 mg/l	TM104	<0.5
COD, unfiltered	<7 mg/l	TM107	44.2 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.0727 #
Aluminium (diss.filt)	<10 µg/l	TM152	61.2 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	<0.5 #
Barium (diss.filt)	<0.2 µg/l	TM152	1.68 #
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1 #
Boron (diss.filt)	<10 µg/l	TM152	<10 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	0.333 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.211 #
Manganese (diss.filt)	<3 µg/l	TM152	52.4 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	<0.4 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	3.82 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	9.77 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	1.14 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	0.345 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	2.72 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	1.1 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	**LOD/Units**	**Method**	
Customer Sample Ref.			SW3
Depth (m)			.
Sample Type			Surface Water (SW)
Date Sampled			06/10/2020
Sample Time			01:30:00
Date Received			09/10/2020
SDG Ref			201009-93
Lab Sample No.(s)			23000167
AGS Reference			
Sulphate	<2 mg/l	TM184	<2 #
Chloride	<2 mg/l	TM184	16.7 #
Phosphate (Ortho as P)	<0.02 mg/l	TM184	<0.02 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1 #
Nitrogen, Kjeldahl	<1 mg/l	TM212	<1
Organic nitrogen, Total	<1 mg/l	TM212	<1
Nitrogen, Total	<1 mg/l	TM212	<1 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05
Phenol (low level)	<0.5 µg/l	TM255	<0.5
Cresols (low level)	<0.5 µg/l	TM255	0.6
Xylenols (low level)	<0.5 µg/l	TM255	<0.5
Sum of Detected Monohydric Phenols	<0.5 µg/l	TM255	0.6
pH	<1 pH Units	TM256	6.34 #
Organic Carbon, Total Low Level	<0.1 mg/l	TM295	10.7 @#
Low Level Hexavalent Chromium	<0.003 mg/l	TM331	<0.015

CERTIFICATE OF ANALYSIS

SDG: 201009-93 **Client Reference:** IBR1266 **Report Number:** 571669
Location: Corrick **Order Number:** **Superseded Report:**

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		<0.01 #	<0.01 #	<0.01 #	<0.1 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	0.0141 #	<0.05 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		<0.002 #	<0.002 #	<0.002 #	<0.02 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 #	<0.005 #	<0.05 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		<0.082 #	<0.082 #	<0.082 #	<0.82 #	<0.082 #	<0.082 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/10/2020
Sample Time	01:30:00
Date Received	09/10/2020
SDG Ref	201009-93
Lab Sample No.(s)	23000167
AGS Reference	

Component	LOD/Units	Method	
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<40	<1	<10	<8	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<40	<1	<10	<8	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<80 #	<2 #	<20 #	<16 #	2.82 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<200 #	<5 #	<50 #	<40 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<40	<1	<10	<8	<1	<1
Phenol (aq)	<1 µg/l	TM176		<40	<1	<10	<8	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<40	<1	<10	<8	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<40 #	<1 #	<10 #	<8 #	<1 #	<1 #
SVOC TIC (aq)		TM176		Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Total SVOC TIC	<10 µg/l	TM176		<400	<10	<100	<80	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/10/2020
Sample Time	01:30:00
Date Received	09/10/2020
SDG Ref	201009-93
Lab Sample No.(s)	23000167
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<2 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<2 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<2 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2 #
2-Methylphenol (aq)	<1 µg/l	TM176	<2 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<2 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<2 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<2 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<2 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<2
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2 #
4-Methylphenol (aq)	<1 µg/l	TM176	<2 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<2 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<2
Azobenzene (aq)	<1 µg/l	TM176	<2 #
Acenaphthylene (aq)	<1 µg/l	TM176	<2 #
Acenaphthene (aq)	<1 µg/l	TM176	<2 #
Anthracene (aq)	<1 µg/l	TM176	<2 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<2 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<2 #
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<2 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/10/2020
Sample Time	01:30:00
Date Received	09/10/2020
SDG Ref	201009-93
Lab Sample No.(s)	23000167
AGS Reference	

Component	LOD/Units	Method	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<2 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<2 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2 #
Carbazole (aq)	<1 µg/l	TM176	<2 #
Chrysene (aq)	<1 µg/l	TM176	<2 #
Dibenzofuran (aq)	<1 µg/l	TM176	<2 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<2 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<2 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<10 #
Fluoranthene (aq)	<1 µg/l	TM176	<2 #
Fluorene (aq)	<1 µg/l	TM176	<2 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<2 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<2
Phenol (aq)	<1 µg/l	TM176	<2
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2 #
Hexachloroethane (aq)	<1 µg/l	TM176	<2 #
Nitrobenzene (aq)	<1 µg/l	TM176	<2 #
Naphthalene (aq)	<1 µg/l	TM176	<2 #
Isophorone (aq)	<1 µg/l	TM176	<2 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2
Phenanthrene (aq)	<1 µg/l	TM176	<2 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<2 #
Pyrene (aq)	<1 µg/l	TM176	<2 #
SVOC TIC (aq)		TM176	Not Detected
Total SVOC TIC	<10 µg/l	TM176	<20

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		88	101	102	109	102	101
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11	<11	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	78	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	78	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	19	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	19	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10	97	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		<10	<10	<10	78	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
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**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			SW3	.	Surface Water (SW)	06/10/2020	01:30:00	09/10/2020	201009-93	23000167	
GRO Surrogate % recovery**	%	TM245	97								
GRO >C5-C12	<50 µg/l	TM245	<50 #								
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	<3 #								
Benzene	<7 µg/l	TM245	<7 #								
Toluene	<4 µg/l	TM245	<4 #								
Ethylbenzene	<5 µg/l	TM245	<5 #								
m,p-Xylene	<8 µg/l	TM245	<8 #								
o-Xylene	<3 µg/l	TM245	<3 #								
Sum of detected Xylenes	<11 µg/l	TM245	<11								
Sum of detected BTEX	<28 µg/l	TM245	<28								
Aliphatics >C5-C6	<10 µg/l	TM245	<10								
Aliphatics >C6-C8	<10 µg/l	TM245	<10								
Aliphatics >C8-C10	<10 µg/l	TM245	<10								
Aliphatics >C10-C12	<10 µg/l	TM245	<10								
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10								
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10								
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10								
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10								
Aromatics >EC5-EC7	<10 µg/l	TM245	<10								
Aromatics >EC7-EC8	<10 µg/l	TM245	<10								
Aromatics >EC8-EC10	<10 µg/l	TM245	<10								
Aromatics >EC10-EC12	<10 µg/l	TM245	<10								
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10								
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10								
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10								
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10								
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10								
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10								

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
Dibromofluoromethane**	%	TM208		113	119	113	112	114	114
Toluene-d8**	%	TM208		99	99.4	98.3	97.9	99.4	100
4-Bromofluorobenzene**	%	TM208		95.1	96.9	97.7	94.5	99.5	95.8
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020	06/10/2020
			Sample Time	12:45:00	13:10:00	13:25:00	13:00:00	12:45:00	01:00:00
			Date Received	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
			SDG Ref	201009-93	201009-93	201009-93	201009-93	201009-93	201009-93
			Lab Sample No.(s)	23000161	23000162	23000163	23000164	23000165	23000166
			AGS Reference						
VOC TIC		TM208		Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208		<2	<2	<2	<2	<2	<2
Total VOC TIC	<10 µg/l	TM208		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/10/2020
Sample Time	01:30:00
Date Received	09/10/2020
SDG Ref	201009-93
Lab Sample No.(s)	23000167
AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM208	115
Toluene-d8**	%	TM208	99.5
4-Bromofluorobenzene**	%	TM208	96.6
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #
Chloromethane	<1 µg/l	TM208	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #
Bromomethane	<1 µg/l	TM208	<1 #
Chloroethane	<1 µg/l	TM208	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1 #
Bromochloromethane	<1 µg/l	TM208	<1 #
Chloroform	<1 µg/l	TM208	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #
Benzene	<1 µg/l	TM208	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
Toluene	<1 µg/l	TM208	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/10/2020
Sample Time	01:30:00
Date Received	09/10/2020
SDG Ref	201009-93
Lab Sample No.(s)	23000167
AGS Reference	

Component	LOD/Units	Method	
Tetrachloroethene	<1 µg/l	TM208	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Styrene	<1 µg/l	TM208	<1 #
Bromoform	<1 µg/l	TM208	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

Validated

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			SW3	.	Surface Water (SW)	06/10/2020	01:30:00	09/10/2020	201009-93	23000167	
VOC TIC		TM208	Not Detected								
Sum of detected Xylenes	<2 µg/l	TM208	<2								
Total VOC TIC	<10 µg/l	TM208	<10								

Table of Results - Appendix

Method No	Reference	Description
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM212	SO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM255		Determination of Low Level Phenols in Waters and Leachates by HPLC
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM295	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Low Level Total Organic Carbon in Water
TM331		Low Level Hexavalent Chromium

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201009-93	**Client Reference:**	IBR1266	**Report Number:**	571669
Location:	Corrick	**Order Number:**		**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23000161	23000162	23000163	23000164	23000165	23000166	23000167
Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2	SW3
AGS Ref.							
Depth							
Type	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water
Alkalinity as CaCO3	14-Oct-2020	14-Oct-2020	15-Oct-2020	15-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Ammoniacal Nitrogen	16-Oct-2020	15-Oct-2020	15-Oct-2020	16-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
Ammonium Low	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Anions by Kone (w)	19-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
BOD True Total	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
COD Unfiltered	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Conductivity (at 20 deg.C)	14-Oct-2020	14-Oct-2020	14-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
Cyanide Comp/Free/Total/Thiocyanate	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Dissolved Metals by ICP-MS	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Dissolved Organic/Inorganic Carbon	16-Oct-2020	17-Oct-2020	16-Oct-2020	17-Oct-2020	17-Oct-2020	17-Oct-2020	16-Oct-2020
EPH CWG (Aliphatic) Aqueous GC (W)	17-Oct-2020	17-Oct-2020	17-Oct-2020	17-Oct-2020	18-Oct-2020	18-Oct-2020	17-Oct-2020
EPH CWG (Aromatic) Aqueous GC (W)	17-Oct-2020	17-Oct-2020	17-Oct-2020	17-Oct-2020	18-Oct-2020	18-Oct-2020	17-Oct-2020
Fluoride	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
GRO by GC-FID (W)	13-Oct-2020	13-Oct-2020	13-Oct-2020	13-Oct-2020	13-Oct-2020	13-Oct-2020	13-Oct-2020
Kjeldahl Nitrogen on liquids	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020
Low Level Hexavalent Chromium (w)	14-Oct-2020	14-Oct-2020	14-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
Low Level Phenols by HPLC (W)	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Low Level TOC	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Mercury Dissolved	17-Oct-2020	16-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	17-Oct-2020	19-Oct-2020
Nitrite by Kone (w)	19-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
PAH Spec MS - Aqueous (W)	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
pH Value	15-Oct-2020	15-Oct-2020	15-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Phosphate by Kone (w)	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020	15-Oct-2020
Sulphide	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Suspended Solids	15-Oct-2020	14-Oct-2020	14-Oct-2020	16-Oct-2020	15-Oct-2020	16-Oct-2020	16-Oct-2020
SVOC MS (W) - Aqueous	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020	16-Oct-2020
Total Nitrogen	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020	19-Oct-2020
TPH CWG (W)	17-Oct-2020	17-Oct-2020	17-Oct-2020	17-Oct-2020	18-Oct-2020	18-Oct-2020	17-Oct-2020
VOC MS (W)	12-Oct-2020	13-Oct-2020	12-Oct-2020	13-Oct-2020	12-Oct-2020	13-Oct-2020	13-Oct-2020

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
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Website: www.alsenvironmental.co.uk

RPS Consultants Ltd
Enterprise Fund Business Centre
Ballyraine
Letterkenny

Attention: Michael Crawford

CERTIFICATE OF ANALYSIS

Date of report Generation:	05 November 2020
Customer:	RPS Consultants Ltd
Sample Delivery Group (SDG):	201023-82
Your Reference:	IBR1266
Location:	Corrick
Report No:	574226

We received 7 samples on Friday October 23, 2020 and 7 of these samples were scheduled for analysis which was completed on Thursday November 05, 2020. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23100210	BH01			20/10/2020
23100211	BH02			20/10/2020
23100213	BH03			20/10/2020
23100214	BH06			20/10/2020
23100207	SW1			20/10/2020
23100208	SW2			20/10/2020
23100209	SW3			20/10/2020

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	23100210	23100211	23100213
			Customer Sample Reference	BH01	BH02	BH03
			AGS Reference			
			Depth (m)			
			Container	0.5l glass bottle (ALE227)	0.5l glass bottle (ALE227)	0.5l glass bottle (ALE227)
				PTFE/PE (ALE219)	PTFE/PE (ALE219)	
				250ml Amber Gl. (ALE212)	250ml Amber Gl. (ALE212)	
				250ml BOD (ALE208)	250ml BOD (ALE208)	
				500ml Plastic H2SO4 (ALE244)	500ml Plastic H2SO4 (ALE244)	
				HNO3 Filtered (ALE204)	HNO3 Filtered (ALE204)	
				NaOH (ALE245)	NaOH (ALE245)	
				Vial (ALE297)	Vial (ALE297)	
				ZnAc (ALE246)	ZnAc (ALE246)	
			Sample Type	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 7			X	X
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 7			X	X
Ammonium Low	All	NDPs: 0 Tests: 7			X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 7			X	X
BOD True Total	All	NDPs: 0 Tests: 7			X	X
COD Unfiltered	All	NDPs: 0 Tests: 7			X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 7			X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 7				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 7		X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7		X	X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7		X	X	
Fluoride	All	NDPs: 0 Tests: 7			X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7				
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 7			X	X

23100207	SW1			500ml Plastic (ALE208)	SW	X			X			X						X		X
				250ml BOD (ALE212)	SW					X	X									
				250ml Amber Gl. PTFE/PE (ALE219)	SW											X	X			
				0.5l glass bottle (ALE227)	SW										X					
23100214	BH06			ZnAc (ALE246)	GW															
				Vial (ALE297)	GW														X	
				NaOH (ALE245)	GW								X							
				HNO3 Filtered (ALE204)	GW									X						
				H2SO4 (ALE244)	GW		X	X												
				500ml Plastic (ALE208)	GW	X			X			X						X		X
				250ml BOD (ALE212)	GW					X	X									
				250ml Amber Gl. PTFE/PE (ALE219)	GW											X	X			
				0.5l glass bottle (ALE227)	GW										X					
23100213	BH03			ZnAc (ALE246)	GW															
				Vial (ALE297)	GW														X	
				NaOH (ALE245)	GW								X							
				HNO3 Filtered (ALE204)	GW									X						
				H2SO4 (ALE244)	GW		X	X												
				500ml Plastic (ALE208)	GW	X			X			X						X		X
				250ml BOD (ALE212)	GW					X	X									
				250ml Amber Gl. PTFE/PE (ALE219)	GW											X	X			

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)																						23100210	23100211	23100213
Customer Sample Reference																						BH01	BH02	BH03
AGS Reference																								
Depth (m)																								
Container																						0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)
Sample Type																						GW	GW	GW
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 7																					X	
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 7																						
Low Level TOC	All	NDPs: 0 Tests: 7																						
Mercury Dissolved	All	NDPs: 0 Tests: 7																						
Nitrite by Kone (w)	All	NDPs: 0 Tests: 7																						
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 7																						
pH Value	All	NDPs: 0 Tests: 7																					X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 7																					X	
Sulphide	All	NDPs: 0 Tests: 7																						
Suspended Solids	All	NDPs: 0 Tests: 7																					X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7	X																			X		X
Total Nitrogen	All	NDPs: 0 Tests: 7																					X	
TPH CWG (W)	All	NDPs: 0 Tests: 7	X																			X		X
VOC MS (W)	All	NDPs: 0 Tests: 7																						

23100207	SW1			500ml Plastic (ALE208)	SW	X						X	X		X		X		
				250ml BOD (ALE212)	SW														
				250ml Amber Gl. PTFE/PE (ALE219)	SW						X								
				0.5l glass bottle (ALE227)	SW											X		X	
23100214	BH06			ZnAc (ALE246)	GW									X					
				Vial (ALE297)	GW														X
				NaOH (ALE245)	GW					X									
				HNO3 Filtered (ALE204)	GW				X										
				H2SO4 (ALE244)	GW		X	X											
				500ml Plastic (ALE208)	GW	X						X	X		X		X		
				250ml BOD (ALE212)	GW														
				250ml Amber Gl. PTFE/PE (ALE219)	GW						X								
				0.5l glass bottle (ALE227)	GW											X		X	
23100213	BH03			ZnAc (ALE246)	GW									X					
				Vial (ALE297)	GW														X
				NaOH (ALE245)	GW					X									
				HNO3 Filtered (ALE204)	GW				X										
				H2SO4 (ALE244)	GW		X	X											
				500ml Plastic (ALE208)	GW	X						X	X		X		X		
				250ml BOD (ALE212)	GW														
				250ml Amber Gl. PTFE/PE (ALE219)	GW						X								

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23100207									23100208									23100209
Customer Sample Reference			SW1									SW2									SW3
AGS Reference																					
Depth (m)																					
Container			H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 7									X									X	
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 7	X									X									X
Ammonium Low	All	NDPs: 0 Tests: 7	X									X									X
Anions by Kone (w)	All	NDPs: 0 Tests: 7									X									X	
BOD True Total	All	NDPs: 0 Tests: 7								X									X		
COD Unfiltered	All	NDPs: 0 Tests: 7								X									X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 7									X									X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7			X									X							
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 7		X									X								
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 7						X									X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7							X									X			
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 7							X									X			
Fluoride	All	NDPs: 0 Tests: 7									X									X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7				X									X						
Kjeldahl Nitrogen on liquids	All	NDPs: 0 Tests: 7									X									X	

23100209	SW3			ZnAc (ALE246)	SW															
				Vial (ALE297)	SW														x	
				NaOH (ALE245)	SW								x							
				HNO3 Filtered (ALE204)	SW									x						

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)							23100207							23100208							23100209	
Customer Sample Reference							SW1							SW2							SW3	
AGS Reference																						
Depth (m)																						
Container							H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type							SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 7													X									X	
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 7	X													X									X
Low Level TOC	All	NDPs: 0 Tests: 7	X													X									X
Mercury Dissolved	All	NDPs: 0 Tests: 7		X													X								
Nitrite by Kone (w)	All	NDPs: 0 Tests: 7			X													X							
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 7											X										X		
pH Value	All	NDPs: 0 Tests: 7													X									X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 7													X									X	
Sulphide	All	NDPs: 0 Tests: 7					X													X					
Suspended Solids	All	NDPs: 0 Tests: 7													X									X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7						X													X				
Total Nitrogen	All	NDPs: 0 Tests: 7													X									X	
TPH CWG (W)	All	NDPs: 0 Tests: 7						X													X				
VOC MS (W)	All	NDPs: 0 Tests: 7				X													X						

23100209	SW3			ZnAc (ALE246)	SW																		X										
				Vial (ALE297)	SW																												X
				NaOH (ALE245)	SW										X																		
				HNO3 Filtered (ALE204)	SW								X																				

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		54.9 #	29.8 #	55.2 #	112 #	<2 #	<2 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043		11 #	23.8 #	42.6 #	191 #	<2 #	36.5 #
BOD, unfiltered	<1 mg/l	TM045		<1 @ #	<1 @ #	<1 @ #	<1 @ #	<1 @ #	<1 @ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090		10.7	<3	<3	5.87	14.4	15.3
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099		0.0215 #	0.0573 #	0.0215 #	0.0343 #	0.0216 #	0.0198 #
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01	<0.01
Fluoride	<0.5 mg/l	TM104		<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5	<0.5
COD, unfiltered	<7 mg/l	TM107		48.1 #	<7 #	<7 #	109 #	36.2 #	30.8 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120		0.0828 #	0.118 #	0.125 #	0.433 #	0.0684 #	0.115 #
Aluminium (diss.filt)	<10 µg/l	TM152		353 #	<10 #	<10 #	<10 #	97.5 #	102 #
Antimony (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
Barium (diss.filt)	<0.2 µg/l	TM152		8.57 #	4.16 #	9.06 #	37.9 #	1.07 #	25.2 #
Beryllium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Boron (diss.filt)	<10 µg/l	TM152		<10 #	<10 #	<10 #	69.5 #	<10 #	17.1 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		0.214 #	<0.08 #	<0.08 #	0.0893 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	2.42 #	1.48 #	1.21 #
Copper (diss.filt)	<0.3 µg/l	TM152		4.27 #	0.414 #	<0.3 #	3.72 #	<0.3 #	0.369 #
Lead (diss.filt)	<0.2 µg/l	TM152		1.24 #	0.246 #	0.904 #	1.12 #	0.264 #	0.49 #
Manganese (diss.filt)	<3 µg/l	TM152		123 #	250 #	654 #	46.6 #	11.5 #	160 #
Molybdenum (diss.filt)	<3 µg/l	TM152		<3 #	<3 #	<3 #	5.44 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152		6.15 #	0.595 #	1.41 #	1.14 #	<0.4 #	0.963 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		57.4 #	139 #	5.19 #	5190 #	4.95 #	12.2 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152		9.59 #	12.1 #	11.9 #	14.7 #	10.3 #	9.3 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		1.36 #	2.47 #	2.85 #	10 #	1.12 #	2.12 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152		0.236 #	0.876 #	2.06 #	4.05 #	0.381 #	0.873 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152		3.74 #	5.9 #	7.1 #	61.1 #	0.838 #	11.5 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		0.301 #	0.137 #	0.779 #	0.134 #	1.36 #	0.848 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
Sulphate	<2 mg/l	TM184		5.6 #	5.2 #	2.3 #	22.8 #	<2 #	<2 #
Chloride	<2 mg/l	TM184		16.5 #	24.7 #	18 #	22.3 #	18.1 #	16.2 #
Phosphate (Ortho as P)	<0.02 mg/l	TM184		<0.02 #	<0.02 #	<0.02 #	<0.02 #	<0.02 #	<0.02 #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3	<0.3	0.517	2.28	<0.3	0.73
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	0.12 #	0.518 #	<0.1 #	0.166 #
Nitrogen, Kjeldahl	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Organic nitrogen, Total	<1 mg/l	TM212		<1	<1	<1	<1	<1	<1
Nitrogen, Total	<1 mg/l	TM212		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 @ #	<0.05 #	<0.05 #	<0.05 #	<0.05 @	<0.05 @
Phenol (low level)	<0.5 µg/l	TM255		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cresols (low level)	<0.5 µg/l	TM255		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenols (low level)	<0.5 µg/l	TM255		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sum of Detected Monohydric Phenols	<0.5 µg/l	TM255		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
pH	<1 pH Units	TM256		5.46 #	6.16 #	6.2 #	6.45 #	5.15 #	7.17 #
Organic Carbon, Total Low Level	<0.1 mg/l	TM295		13.6 @ #	2.62 @ #	2.17 @ #	8.08 @ #	13.2 @ #	13.8 @ #
Low Level Hexavalent Chromium	<0.003 mg/l	TM331		<0.003	<0.003	<0.003	<0.003	<0.03	<0.015

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
Suspended solids, Total	<2 mg/l	TM022	2.65 #
Alkalinity, Total as CaCO3	<2 mg/l	TM043	7.5 #
BOD, unfiltered	<1 mg/l	TM045	<1 @ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090	11.8
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2 #
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0283 #
Sulphide	<0.01 mg/l	TM101	<0.01
Fluoride	<0.5 mg/l	TM104	<0.5
COD, unfiltered	<7 mg/l	TM107	34 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.0632 #
Aluminium (diss.filt)	<10 µg/l	TM152	66 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	<0.5 #
Barium (diss.filt)	<0.2 µg/l	TM152	2.13 #
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1 #
Boron (diss.filt)	<10 µg/l	TM152	<10 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	5.64 #
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.419 #
Manganese (diss.filt)	<3 µg/l	TM152	57.2 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	<0.4 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	9.53 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	9.63 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	1.1 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	0.497 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	2.38 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	1.21 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			SW3	.	Surface Water (SW)	20/10/2020	.	23/10/2020	201023-82	23100209	
Sulphate	<2 mg/l	TM184	<2 #								
Chloride	<2 mg/l	TM184	16.2 #								
Phosphate (Ortho as P)	<0.02 mg/l	TM184	<0.02 #								
Nitrate as NO3	<0.3 mg/l	TM184	<0.3								
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1 #								
Nitrogen, Kjeldahl	<1 mg/l	TM212	<1								
Organic nitrogen, Total	<1 mg/l	TM212	<1								
Nitrogen, Total	<1 mg/l	TM212	<1 #								
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @								
Phenol (low level)	<0.5 µg/l	TM255	<0.5								
Cresols (low level)	<0.5 µg/l	TM255	<0.5								
Xylenols (low level)	<0.5 µg/l	TM255	<0.5								
Sum of Detected Monohydric Phenols	<0.5 µg/l	TM255	<0.5								
pH	<1 pH Units	TM256	6.32 #								
Organic Carbon, Total Low Level	<0.1 mg/l	TM295	10.2 @#								
Low Level Hexavalent Chromium	<0.003 mg/l	TM331	<0.015								

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178		0.0535 #	<0.01 @ #	0.0476 #	0.134 #	0.0207 #	0.179 #
Acenaphthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	0.0148 #	<0.005 #	0.0206 #
Acenaphthylene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	0.0136 #	<0.005 #	0.0142 #
Fluorene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	0.00615 #
Chrysene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		<0.002 #	<0.002 @ #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		<0.005 #	<0.005 @ #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		<0.082 #	<0.082 @ #	<0.082 #	0.163 #	<0.082 #	0.22 #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
Naphthalene (aq)	<0.01 µg/l	TM178	0.0313 #
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0206 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	0.00713 #
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0075 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	0.0136 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	0.0119 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	0.0303 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.122 #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2-Chlorophenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2-Methylphenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2-Nitroaniline (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
2-Nitrophenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
3-Nitroaniline (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
4-Chloroaniline (aq)	<1 µg/l	TM176		<4	<4	<4	<10	<4	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
4-Methylphenol (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
4-Nitroaniline (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
4-Nitrophenol (aq)	<1 µg/l	TM176		<4	<4	<4	<10	<4	<4
Azobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Acenaphthylene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Acenaphthene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Anthracene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<8 @ #	<8 @ #	<8 @ #	<20 @ #	<8 @ #	<8 @ #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Carbazole (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Chrysene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Dibenzofuran (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Diethyl phthalate (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<20 @ #	<20 @ #	<20 @ #	<50 @ #	<20 @ #	<20 @ #
Fluoranthene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Fluorene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Pentachlorophenol (aq)	<1 µg/l	TM176		<4	<4	<4	<10	<4	<4
Phenol (aq)	<1 µg/l	TM176		<4	<4	<4	<10	<4	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Hexachloroethane (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Nitrobenzene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Naphthalene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Isophorone (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<4	<4	<4	<10	<4	<4
Phenanthrene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
Pyrene (aq)	<1 µg/l	TM176		<4 @ #	<4 @ #	<4 @ #	<10 @ #	<4 @ #	<4 @ #
SVOC TIC (aq)		TM176		Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176		<40	<40	<40	<100	<40	<40

Validated

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<4 @ #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @ #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @ #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @ #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<4 @ #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<4 @ #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<4 @ #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<4 @ #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 @ #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 @ #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<4 @ #
2-Chlorophenol (aq)	<1 µg/l	TM176	<4 @ #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<4 @ #
2-Methylphenol (aq)	<1 µg/l	TM176	<4 @ #
2-Nitroaniline (aq)	<1 µg/l	TM176	<4 @ #
2-Nitrophenol (aq)	<1 µg/l	TM176	<4 @ #
3-Nitroaniline (aq)	<1 µg/l	TM176	<4 @ #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<4 @ #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<4 @ #
4-Chloroaniline (aq)	<1 µg/l	TM176	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<4 @ #
4-Methylphenol (aq)	<1 µg/l	TM176	<4 @ #
4-Nitroaniline (aq)	<1 µg/l	TM176	<4 @ #
4-Nitrophenol (aq)	<1 µg/l	TM176	<4
Azobenzene (aq)	<1 µg/l	TM176	<4 @ #
Acenaphthylene (aq)	<1 µg/l	TM176	<4 @ #
Acenaphthene (aq)	<1 µg/l	TM176	<4 @ #
Anthracene (aq)	<1 µg/l	TM176	<4 @ #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<4 @ #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<4 @ #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<8 @ #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<4 @ #
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<4 @ #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<4 @ #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<4 @ #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<4 @ #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<4 @ #
Carbazole (aq)	<1 µg/l	TM176	<4 @ #
Chrysene (aq)	<1 µg/l	TM176	<4 @ #
Dibenzofuran (aq)	<1 µg/l	TM176	<4 @ #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<4 @ #
Diethyl phthalate (aq)	<1 µg/l	TM176	<4 @ #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<4 @ #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<4 @ #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<20 @ #
Fluoranthene (aq)	<1 µg/l	TM176	<4 @ #
Fluorene (aq)	<1 µg/l	TM176	<4 @ #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<4 @ #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<4 @ #
Pentachlorophenol (aq)	<1 µg/l	TM176	<4
Phenol (aq)	<1 µg/l	TM176	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<4 @ #
Hexachloroethane (aq)	<1 µg/l	TM176	<4 @ #
Nitrobenzene (aq)	<1 µg/l	TM176	<4 @ #
Naphthalene (aq)	<1 µg/l	TM176	<4 @ #
Isophorone (aq)	<1 µg/l	TM176	<4 @ #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<4
Phenanthrene (aq)	<1 µg/l	TM176	<4 @ #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<4 @ #
Pyrene (aq)	<1 µg/l	TM176	<4 @ #
SVOC TIC (aq)		TM176	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<40

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		107	106	105	102	103	108
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected Xylenes	<11 µg/l	TM245		<11	<11	<11	<11	<11	<11
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
GRO Surrogate % recovery**	%	TM245	103
GRO >C5-C12	<50 µg/l	TM245	<50 #
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	<3 #
Benzene	<7 µg/l	TM245	<7 #
Toluene	<4 µg/l	TM245	<4 #
Ethylbenzene	<5 µg/l	TM245	<5 #
m,p-Xylene	<8 µg/l	TM245	<8 #
o-Xylene	<3 µg/l	TM245	<3 #
Sum of detected Xylenes	<11 µg/l	TM245	<11
Sum of detected BTEX	<28 µg/l	TM245	<28
Aliphatics >C5-C6	<10 µg/l	TM245	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
Dibromofluoromethane**	%	TM208		108	113	113	112	114	108
Toluene-d8**	%	TM208		98.2	98.2	98.6	98.7	98.3	98.2
4-Bromofluorobenzene**	%	TM208		97	96.7	95.5	98.2	99.2	96.8
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
			Date Sampled	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020	20/10/2020
			Sample Time	.	.	.	.	.	.
			Date Received	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020	23/10/2020
			SDG Ref	201023-82	201023-82	201023-82	201023-82	201023-82	201023-82
			Lab Sample No.(s)	23100210	23100211	23100213	23100214	23100207	23100208
			AGS Reference						
VOC TIC		TM208		Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208		<2	<2	<2	<2	<2	<2
Total VOC TIC	<10 µg/l	TM208		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM208	108
Toluene-d8**	%	TM208	98.8
4-Bromofluorobenzene**	%	TM208	98.5
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #
Chloromethane	<1 µg/l	TM208	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #
Bromomethane	<1 µg/l	TM208	<1 #
Chloroethane	<1 µg/l	TM208	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1 #
Bromochloromethane	<1 µg/l	TM208	<1 #
Chloroform	<1 µg/l	TM208	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #
Benzene	<1 µg/l	TM208	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
Toluene	<1 µg/l	TM208	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
Tetrachloroethene	<1 µg/l	TM208	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Styrene	<1 µg/l	TM208	<1 #
Bromoform	<1 µg/l	TM208	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	SW3
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	20/10/2020
Sample Time	.
Date Received	23/10/2020
SDG Ref	201023-82
Lab Sample No.(s)	23100209
AGS Reference	

Component	LOD/Units	Method	
VOC TIC		TM208	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2
Total VOC TIC	<10 µg/l	TM208	<10

Table of Results - Appendix

Method No	Reference	Description
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM212	SO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM255		Determination of Low Level Phenols in Waters and Leachates by HPLC
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM295	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Low Level Total Organic Carbon in Water
TM331		Low Level Hexavalent Chromium

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	201023-82	**Client Reference:**	IBR1266	**Report Number:**	574226
Location:	Corrick	**Order Number:**	240687404	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23100210	23100211	23100213	23100214	23100207	23100208	23100209
Customer Sample Ref.	BH01	BH02	BH03	BH06	SW1	SW2	SW3
AGS Ref.							
Depth							
Type	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water
Alkalinity as CaCO3	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020
Ammoniacal Nitrogen	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020
Ammonium Low	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020	28-Oct-2020
Anions by Kone (w)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
BOD True Total	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020
COD Unfiltered	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020
Conductivity (at 20 deg.C)	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020
Cyanide Comp/Free/Total/Thiocyanate	04-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020
Dissolved Metals by ICP-MS	04-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
Dissolved Organic/Inorganic Carbon	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
EPH CWG (Aliphatic) Aqueous GC (W)	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020
EPH CWG (Aromatic) Aqueous GC (W)	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020
Fluoride	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
GRO by GC-FID (W)	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020
Kjeldahl Nitrogen on liquids	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
Low Level Hexavalent Chromium (w)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
Low Level Phenols by HPLC (W)	05-Nov-2020	05-Nov-2020	05-Nov-2020	05-Nov-2020	05-Nov-2020	05-Nov-2020	05-Nov-2020
Low Level TOC	29-Oct-2020	29-Oct-2020	29-Oct-2020	29-Oct-2020	29-Oct-2020	29-Oct-2020	29-Oct-2020
Mercury Dissolved	31-Oct-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	31-Oct-2020	31-Oct-2020	02-Nov-2020
Nitrite by Kone (w)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
PAH Spec MS - Aqueous (W)	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
pH Value	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020
Phosphate by Kone (w)	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020	30-Oct-2020
Sulphide	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020	02-Nov-2020
Suspended Solids	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020	31-Oct-2020
SVOC MS (W) - Aqueous	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020	04-Nov-2020
Total Nitrogen	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020	03-Nov-2020
TPH CWG (W)	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020	01-Nov-2020
VOC MS (W)	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020	27-Oct-2020

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Appendix E
Summary of Groundwater & Surface Water Monitoring Results (Rounds 1-6)

Sample ID	Sample Date	Lab Sample ID	Carbon	Carbon, Organic (diss.filt)	Total Organic Carbon (Low Level)	Inorganics	Ammoniacal Nitrogen as N	Conductivity @ 20 deg.C	Fluoride	Nitrite as NO2	Nitrogen, Kjeldahl	Total Organic Nitrogen	pH	Sulphate	Sulphide	Chloride	COD	Total Nitrogen	Phosphate (Ortho as P)	Cyanide	Nitrate as NO3
LOD				<3	<0.1		<0.2	<0.005	<0.5	<0.05	<1	<1	<1	<2	<0.01	<2	<7	<1	<0.05	<0.05	<0.3
Round 1 Monitoring Results				mg/l	mg/l		mg/l	mS/cm	mg/l	mg/l	mg/l	mg/l	pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
BH01	06/11/2012	6472543		4.98			0.272	0.438	<0.5	<0.05	<1	<1	7.34	<2	<0.01	23.9	73.3	<1	<0.05	<0.05	<0.3
BH02	06/11/2012	6472544		<3			<0.2	0.126	0.709	<0.05	<1	<1	6.72	<2	<0.01	18.5	50.8	<1	<0.05	<0.05	<0.3
BH03	06/11/2012	6472545		<3			<0.2	0.148	<0.5	<0.05	<1	<1	6.48	<2	<0.01	22.6	101	<1	<0.05	<0.05	<0.3
BH04	06/11/2012	6472546		5.76			1.51	0.235	<0.5	<1	1.08	<1	6.62	7.4	0.034	21.2	7680	1.08	<0.05	<0.05	0.323
BH05	06/11/2012	6472547		6.29			0.58	0.204	<0.5	<1	<1	<1	6.14	<2	0.013	21.4	4900	<1	<0.05	<0.05	0.577
BH06	06/11/2012	6472548		4.3			2.99	0.424	<0.5	<1	2.49	<1	6.84	19.3	<0.01	26.7	10400	2.49	<0.05	<0.05	<0.3
SW01 (Upstream)	06/11/2012	6472550		10.4			<0.2	0.064	0.563	<0.25	<1	<1	6.73	<2	0.011	16	28.7	<1	<0.05	<0.05	<0.3
SW02 (Immediately downstream)	06/11/2012	6472554		11.7			<0.2	0.162	<0.5	<0.05	<1	<1	7.46	<2	<0.01	16.9	39.9	<1	<0.05	<0.05	<0.3
SW03 (Downstream)	06/11/2012	6472555		7.93			<0.2	0.0831	<0.5	<0.05	<1	<1	6.48	<2	<0.01	15.8	18.9	<1	<0.05	<0.05	<0.3
Round 2 Monitoring Results																					
BH01	13/11/2012	121116-106		5.95			<0.2	0.407	<0.5	<0.05	<1	<1	7.28	2	<0.01	25.8	59	<1	<0.05	<0.05	<0.3
BH02	13/11/2012	121116-106		<3			<0.2	0.102	<0.5	<0.05	<1	<1	6.81	<2	<0.01	19.3	71.3	<1	<0.05	<0.05	<0.3
BH03	13/11/2012	121116-106		<3			0.221	0.135	<0.5	<0.05	<1	<1	6.61	<2	<0.01	22.8	84.9	<1	<0.05	<0.05	<0.3
BH04	13/11/2012	121116-106		11.4			0.331	0.118	<0.5	<0.25	<1	<1	7.23	<2	<0.01	14.4	170	<1	<0.05	<0.05	1.88
BH05	13/11/2012	121116-106		4.41			0.441	0.149	<0.5	<1	<1	<1	6.47	<2	<0.01	21.3	2850	<1	<0.05	<0.05	1.06
BH06	13/11/2012	121116-106		6.38			0.872	0.277	<0.5	<1	1.2	<1	7.21	13.2	<0.01	23.5	1390	1.84	<0.05	<0.05	2.21
SW01 (Upstream)	13/11/2012	121116-106		13.8			<0.2	0.0551	0.583	<0.25	<1	<1	5.45	<2	<0.01	14.7	36.5	<1	<0.05	<0.05	<0.3
SW02 (Immediately downstream)	13/11/2012	121116-106		13.1			0.2	0.145	<0.5	<0.25	<1	<1	7.48	<2	<0.01	15.5	39.5	<1	0.062	<0.05	1.71
SW03 (Downstream)	13/11/2012	121116-106		11.3			<0.2	0.0611	<0.5	<0.25	<1	<1	6.89	<2	<0.01	13.6	34.5	<1	<0.05	<0.05	<0.3
Round 3 Monitoring Results																					
BH01	09/01/2013	6758691		4.95			0.222	0.399	<0.5	<0.05	<1	<1	7.22	<2	<0.01	24.2	26.4	<1	<0.05	<0.05	<0.3
BH02	09/01/2013	6758693		<3			<0.2	0.101	0.534	<0.05	<1	<1	6.14	<2	<0.01	16.6	27.2	<1	<0.05	<0.05	<0.3
BH03	09/01/2013	6758688		<3			0.313	0.15	<0.5	<0.05	<1	<1	7	<2	<0.01	19.9	95.8	<1	<0.05	<0.05	0.304
BH04	09/01/2013	6758694		5.94			0.309	0.178	<0.5	<0.1	<1	<1	6.49	<2	0.044	19	13000	<1	<0.05	<0.05	0.527
BH05	09/01/2013	6758692		3.73			0.631	0.127	0.606	<0.25	<1	<1	6.1	<2	<0.01	21.4	3150	<1	<0.05	<0.05	<0.3
BH06	09/01/2013	6758686		5.68			0.751	0.191	<0.5	<0.25	<1	<1	7.69	5.2	<0.01	15.1	148	2.58	<0.05	<0.05	7.82
SW01 (Upstream)	09/01/2013	6758685		13.4			<0.2	0.0571	0.631	<0.05	<1	<1	6.71	<2	<0.01	15.2	35.8	<1	<0.05	<0.05	<0.3
SW02 (Immediately downstream)	09/01/2013	6758690		9.89			<0.2	0.15	<0.5	<0.05	<1	<1	7.47	<2	<0.01	14.6	32.3	<1	0.108	<0.05	1.01
SW03 (Downstream)	09/01/2013	6758687		9.39			0.202	0.0761	<0.5	<0.05	<1	<1	7.09	<2	<0.01	15.9	28.5	<1	<0.05	<0.05	<0.3
Round 4 Monitoring Results																					
BH01	19/11/2013	8456298		4.92			<0.2	0.334	<0.5	<0.05	<1	<1	7.03		<0.01	22.9	43.9	<1	<0.05	<0.05	<0.3
BH02	19/11/2013	8456300		4.24			0.0912	0.137	<0.5	<0.05	<1	<1	6.52		<0.01	19.7	19	<1	<0.05	<0.05	<0.3
BH03	19/11/2013	8456302		3.28			0.135	0.135	<0.5	<0.05	<1	<1	6.48		<0.01	20	496	<1	<0.05	<0.05	<0.3
BH04	19/11/2013	8456304		4.59			0.639	0.146	<0.5	<0.05	<1	<1	6.48		0.049	20.7	104	<1	<0.05	<0.05	<0.3
BH05	19/11/2013	8456305		3.68			0.126	0.142	<0.5	<0.5	<1	<1	6.24		<0.01	20.5	1480	<1	<0.05	<0.05	1.88
BH06	19/11/2013	8456306		9.75			0.641	0.201	<0.5	<0.05	<1	<1	6.72		<0.01	18.3	308	1.15	<0.05	<0.05	1.74
SW01 (Upstream)	19/11/2013	8456313		7.84			0.0355	0.0881	<0.5	<0.05	<1	<1	5.47		<0.01	24.4	19.2	<1	<0.05	<0.05	<0.3
SW02 (Immediately downstream)	19/11/2013	8456315		10.3			0.0418	0.147	<0.5	<0.05	<1	<1	7.27		<0.01	24.9	38.7	<1	0.058	<0.05	0.326
SW03 (Downstream)	19/11/2013	8456317		6.49			0.0549	0.101	<0.5	<0.05	<1	<1	6.84		<0.01	25.5	14.8	<1	<0.05	<0.05	<0.3
Round 5 Monitoring Result																					
BH01	06/10/2020	23000161		7.99	59.5		0.773	0.206	<0.5	<0.05	<1	<1	6.25	3.3	0.0274	20.4	41.2	<1	<0.02	<0.05	0.437
BH02	06/10/2020	23000162		6.24	5.6		0.0962	0.168	2.18	<0.05	<1	<1	6.22	3.7	0.0198	28.9	21.9	<1	<0.02	<0.05	<0.3
BH03	06/10/2020	23000163		<3	11.1		0.134	0.158	1.93	<0.05	<1	<1	6.05	2.9	0.114	27.5	174	<1	<0.02	<0.05	<0.3
BH06	06/10/2020	23000164		3.33	43.5		0.0806	0.297	<0.5	<0.05	<1	<1	6.3	18.8	0.0858	25.9	389	1.36	<0.02	<0.05	2.53
SW01 (Upstream)	06/10/2020	23000165		13.9	14.3		0.0276	0.0732	0.503	<0.05	<1	<1	4.73	<2	<0.01	18.1	35.3	<1	<0.02	<0.05	<0.3
SW02 (Immediately downstream)	06/10/2020	23000166		16.9	14.5		0.0262	0.114	<0.5	<0.05	1.15	1.1	6.96	<2	<0.01	15.7	41.3	1.15	<0.02	<0.05	<0.3
SW03 (Downstream)	06/10/2020	23000167		10.2	10.7		0.081	0.0727	<0.5	<0.05	<1	<1	6.34	<2	<0.01	16.7	44.2	<1	<0.02	<0.05	<0.3
Round 6 Monitoring Results																					
BH01	20/10/2020	23100210		10.7	13.6		0.0215	0.0828	<0.5	<0.05	<1	<1	5.46	5.6	<0.01	16.5	48.1	<1	<0.02	<0.05	<0.3
BH02	20/10/2020	23100211		<3	2.62		0.0573	0.118	<0.5	<0.05	<1	<1	6.16	5.2	<0.01	24.7	<7	<1	<0.02	<0.05	<0.3
BH03	20/10/2020	23100213		<3	2.17		0.0215	0.125	<0.5	<0.05	<1	<1	6.2	2.3	<0.01	18	<7	<1	<0.02	<0.05	0.517
BH06	20/10/2020	23100214		5.87	8.08		0.0343	0.433	<0.5	<0.05	<1	<1	6.45	22.8	<0.01	22.3	109	<1	<0.02	<0.05	2.28
SW01 (Upstream)	20/10/2020	23100207		14.4	13.2		0.0216	0.0684	<0.5	<0.05	<1	<1	5.15	<2	<0.01	18.1	36.2	<1	<0.02	<0.05	<0.3
SW02 (Immediately downstream)	20/10/2020	23100208		15.3	13.8		0.0198	0.115	<0.5	<0.05	<1	<1	7.17	<2	<0.01	16.2	30.8	<1	<0.02	<0.05	0.73
SW03 (Downstream)	20/10/2020	23100209		11.8	10.2		0.0283	0.0632	<0.5	<0.05	<1	<1	6.32	<2	<0.01	16.2	34	<1	<0.02	<0.05	<0.3
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)							0.175	1.875		0.375				187.5		187.5					37.5
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)							0.065 AA 0.14 MAC (good status)		0.5 AA										≤0.035 AA ≤0.075 MAC (good status)	0.01 AA	
EPA Interim Guideline Values 2003 (IGV)					NAC		0.15	1	1	0.1		NAC	≥6.5-9.5≤	200		30			0.03	0.01	25
European Union (Drinking Water) Regulations 2014 (DWR)					NAC		0.3	2.5	0.8 or 1.5	0.5			≥6.5-9.5≤	250		250				0.05	50
EPA Hazardous Substances Minimum Reporting Value (MRV)																					

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	BOD	Alkalinity as CaCO3	Suspended solids	Total Oxidised Nitrogen as N	Sulphur, Free	Thiocyanate	Filtered (Dissolved) Metals	Low Level Hexavalent Chromium	Mercury	Arsenic	Boron	Cadmium	Chromium	Copper	Lead	Manganese	Nickel	Selenium	Zinc	Sodium	Magnesium
LOD			<1	<2	<2	<0.1	<0.05	<0.05		<0.03	<0.01	<0.12	<9.4	<0.1	<0.22	<0.85	<0.02	<0.04	<0.15	<0.39	<0.41	<0.076	<0.036
Round 1 Monitoring Results			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	mg/l	mg/l
BH01	06/11/2012	6472543	<2	220	813	<0.1	<0.05	<0.05		<0.03	<0.01	0.719	<9.4	<0.1	1.91	<0.85	0.201	3,090	3.57	<0.39	28.4	16.7	4.91
BH02	06/11/2012	6472544	<2	60	355	<0.1	<0.05	<0.05		<0.03	<0.01	0.289	<9.4	<0.1	0.445	<0.85	0.141	1,310	2.32	<0.39	34.4	12.9	2.14
BH03	06/11/2012	6472545	<2	31.5	1260	<0.1	<0.05	<0.05		<0.03	<0.01	0.518	10.7	<0.1	0.561	<0.85	0.044	1,610	3.37	0.808	3.82	14.7	1.7
BH04	06/11/2012	6472546	71.3	280	43400	<0.1	<0.05	0.08		<0.03	<0.01	0.647	75.1	<0.1	0.82	<0.85	0.155	1,570	4.12	0.714	28	13.3	8.44
BH05	06/11/2012	6472547	22.4	320	23300	<0.1	<0.05	0.281		<0.03	<0.01	0.543	14.3	<0.1	0.978	<0.85	0.191	1,880	5.17	0.637	101	13.3	2.52
BH06	06/11/2012	6472548	25	500	59300	<0.1	<0.05	0.226		<0.03	<0.01	17.1	99.7	<0.1	1.81	1.93	0.927	869	3.45	1.26	29.4	27.6	17
SW01 (Upstream)	06/11/2012	6472550	2.09	3	2.5	<0.1	<0.05	<0.05		<0.03	<0.01	0.394	<9.4	<0.1	<0.22	<0.85	0.207	24	0.212	<0.39	14.5	9.37	1.11
SW02 (Immediately downstream)	06/11/2012	6472554	<2	50	16.5	<0.1	<0.05	<0.05		<0.03	<0.01	0.262	14.3	<0.1	0.636	1.52	0.27	86	1.29	<0.39	8.55	11.4	2.93
SW03 (Downstream)	06/11/2012	6472555	<2	13	3	<0.1	<0.05	<0.05		<0.03	<0.01	0.46	<9.4	<0.1	0.253	<0.85	0.131	66	0.304	<0.39	2.15	9.7	1.32
Round 2 Monitoring Results																							
BH01	13/11/2012	121116-106	<3	200	1160	<0.1	<0.05	<0.05		<0.03	<0.01	0.273	<9.4	<0.1	0.37	2.94	0.037	3,200	4.81	<0.39	13.5	18.4	5.19
BH02	13/11/2012	121116-106	<3	19.5	700	<0.1	<0.05	<0.05		<0.03	<0.01	0.126	<9.4	<0.1	0.266	1.24	0.069	1,310	1.92	<0.39	21.5	13.5	1.88
BH03	13/11/2012	121116-106	<3	32	1650	<0.1	<0.05	<0.05		<0.03	<0.01	0.351	<9.4	<0.1	<0.22	<0.85	0.032	1,830	2.32	<0.39	0.971	14.6	1.75
BH04	13/11/2012	121116-106	<4	50	328	0.434	<0.05	<0.05		<0.06	<0.01	0.581	18.5	0.12	0.64	14.5	4.08	211	4.32	0.67	95.1	9.16	2.15
BH05	13/11/2012	121116-106	14.2	75	8080	0.239	<0.05	0.068		<0.03	<0.01	1.19	12.9	<0.1	0.6	2.11	0.265	1,280	2	0.569	56.7	14.1	2.25
BH06	13/11/2012	121116-106	4.97	160	4960	0.644	<0.05	<0.05		<0.03	<0.01	4.31	51.9	<0.1	0.742	4.73	0.458	508	1.6	1.79	10.3	21.9	9.51
SW01 (Upstream)	13/11/2012	121116-106	<3	<2	<2	<0.1	<0.05	<0.05		<0.06	<0.01	0.355	<9.4	<0.1	<0.22	<0.85	0.165	11	0.209	<0.39	2.03	8.19	0.92
SW02 (Immediately downstream)	13/11/2012	121116-106	<3	55	181	0.404	<0.05	<0.05		<0.06	<0.01	0.486	19.1	<0.1	0.428	3.39	0.474	26	1.59	0.891	15.3	9.86	2.83
SW03 (Downstream)	13/11/2012	121116-106	<2	8	10.5	<0.1	<0.05	<0.05		<0.06	<0.01	0.229	<9.4	<0.1	<0.22	<0.85	0.123	6	0.318	<0.39	5.04	8.32	0.973
Round 3 Monitoring Results																							
BH01	09/01/2013	6758691	<2	205	80.5	<0.1	<0.05	<0.05		<0.03	<0.01	0.404	<9.4	<0.1	1.55	1.37	0.032	3,650	3.47	0.474	23.7	18.5	5.33
BH02	09/01/2013	6758693	<2	20	181	<0.1	<0.05	<0.05		<0.03	<0.01	0.122	<9.4	<0.1	0.672	<0.85	<0.02	1,410	1.58	<0.39	44.4	12.9	1.87
BH03	09/01/2013	6758688	<2	50	744	<0.1	<0.05	<0.05		<0.03	<0.01	0.421	10.9	<0.1	0.836	<0.85	<0.02	1,670	1.79	<0.39	0.417	14.7	1.96
BH04	09/01/2013	6758694	11.8	82.5	45100	0.11	<0.0545	<0.05		<0.03	0.0103	2.58	21.6	<0.1	1.52	0.904	2.93	1,290	7.6	<0.39	34	12.9	2.53
BH05	09/01/2013	6758692	8.12	36.5	15300	<0.1	<0.06	0.186		<0.03	<0.01	0.257	<9.4	0.133	1.5	2.62	3.24	1,470	3.78	0.411	76.4	14.1	1.99
BH06	09/01/2013	6758686	<2	80	2100	1.79	<0.0545	<0.05		<0.03	<0.01	0.357	40.2	<0.1	1.44	3.4	0.138	296	1.05	1.16	12.9	12.8	5.25
SW01 (Upstream)	09/01/2013	6758685	<2	3	<2	<0.1	<0.05	<0.05		<0.03	<0.01	0.477	13.3	<0.1	0.232	<0.85	0.195	17	0.309	<0.39	1.66	10.1	1.1
SW02 (Immediately downstream)	09/01/2013	6758690	<2	50	2.5	0.23	<0.05	<0.05		<0.03	<0.01	0.203	21.4	<0.1	0.872	2.64	0.021	76	1.48	<0.39	19.4	9.33	2.88
SW03 (Downstream)	09/01/2013	6758687	<2	11	5	<0.1	<0.0545	<0.05		<0.03	<0.01	0.425	10.4	<0.1	0.325	<0.85	<0.02	47	0.252	<0.39	3.73	9.14	1.23
Round 4 Monitoring Results																							
BH01	19/11/2013	8456298	<1	165	118	<0.1	<0.05	<0.05		<0.03	<0.01	0.227	22.2	0.336	3.12	2.39	0.045	2,510	7.63	<0.39	34.7	14.8	4.58
BH02	19/11/2013	8456300	<1	50	21	<0.1	<0.05	<0.05		<0.03	<0.01	1.05	20.4	<0.1	1.52	<0.85	1.1	1,740	2.13	<0.39	5.22	13	1.95
BH03	19/11/2013	8456302	<1	33.7	3670	<0.1	<0.05	<0.05		<0.03	0.0118	1.17	20.7	<0.1	1.66	<0.85	0.093	1,860	2.59	<0.39	2.35	12.9	1.76
BH04	19/11/2013	8456304	2.58	50	224	<0.1	<0.05	<0.05		<0.03	<0.01	0.365	46.9	<0.1	2.63	<0.85	0.102	2,080	5.07	<0.39	36	13	2.72
BH05	19/11/2013	8456305	5.71	43.6	5180	0.419	<0.05	<0.05		<0.03	0.0207	1.08	35.2	<0.1	2.68	<0.85	0.424	1,620	2.75	<0.39	82.6	12.8	2.17
BH06	19/11/2013	8456306	<1	85	644	0.407	<0.05	<0.05		<0.03	<0.01	0.85	57.2	<0.1	2.81	3.69	1.65	97	0.989	0.694	12.7	12.3	4.86
SW01 (Upstream)	19/11/2013	8456313	<1	2.5	<2	<0.1	<0.05	<0.05		<0.03	<0.01	0.154	27	<0.1	0.274	<0.85	0.08	19	0.152	<0.39	4.68	12.8	1.63
SW02 (Immediately downstream)	19/11/2013	8456315	<1	34.5	8.75	<0.1	<0.05	<0.05		<0.03	0.0208	0.144	53	<0.1	1.1	1.93	0.186	92	1.09	<0.39	14.9	12.9	2.44
SW03 (Downstream)	19/11/2013	8456317	<1	8	<2	<0.1	<0.05	<0.05		<0.03	<0.01	0.254	30.2	<0.1	0.427	<0.85	0.103	41	0.255	<0.39	3.18	13.3	1.68
Round 5 Monitoring Result																							
BH01	06/10/2020	23000161	<1	85	51.1	<0.1				<0.003	<0.01	<0.5	<10	0.165	1.02	3.54	1.03	1,380	7.5	<1	43.3	10.8	3.13
BH02	06/10/2020	23000162	<1	50	25.5	<0.1				<0.015	<0.01	1.41	11	<0.08	<1	<0.3	<0.2	3,010	2.38	<1	12.6	13	2.51
BH03	06/10/2020	23000163	<3	40	5660	<0.1				<0.015	<0.01	1.51	<10	<0.08	<1	<0.3	<0.2	2,840	3.07	<1	9.05	12.9	2.35
BH06	06/10/2020	23000164	<1	120	1380	0.575				<0.003	<0.01	0.807	56.4	<0.08	<1	3	0.351	122	0.796	<1	9.95	14.7	6.91
SW01 (Upstream)	06/10/2020	23000165	<1	<2	<2	<0.1				<0.015	<0.01	<0.5	<10	<0.08	<1	0.427	0.246	11	<0.4	<1	4.78	10.3	1.13
SW02 (Immediately downstream)	06/10/2020	23000166	2.2	50	6.79	<0.1				<0.015	<0.01	<0.5	15.8	<0.08	<1	1.36	0.368	138	1.29	<1	17	9.45	2.08
SW03 (Downstream)	06/10/2020	23000167	<1	6.5	4.05	<0.1				<0.015	<0.01	<0.5	<10	<0.08	<1	0.333	0.211	52	<0.4	<1	3.82	9.77	1.14
Round 6 Monitoring Results																							
BH01	20/10/2020	23100210	<1	11	54.9	<0.1				<0.003	<0.01	<0.5	<10	0.214	<1	4.27	1.24	123	6.15	<1	57.4	9.59	1.36
BH02	20/10/2020	23100211	<1	23.8	29.8	<0.1				<0.003	<0.01	<0.5	<10	<0.08	<1	0.414	0.246	250	0.595	<1	139	12.1	2.47
BH03	20/10/2020	23100213	<1	42.6	55.2	<0.1				<0.003	<0.01	<0.5	<10	<0.08	<1	<0.3	0.904	654	1.41	<1	5.19	11.9	2.85
BH06	20/10/2020	23100214	<1	191	112	0.518				<0.003	<0.01	<0.5	69.5	0.0893	2.42	3.72	1.12	47	1.14	<1	5190	14.7	10
SW01 (Upstream)	20/10/2020	23100207	<1	<2	<2	<0.1				<0.03	<0.01	<0.5	<10	<0.08	1.48	<0.3	0.264	11.5	<0.4	<1	4.95	10.3	1.12
SW02 (Immediately downstream)	20/10/2020	23100208	<1	36.5	<2	0.166				<0.015	<0.01	<0.5	17.1	<0.08	1.21	0.369	0.49	160	0.963	<1	12.2	9.3	2.12
SW03 (Downstream)	20/10/2020	23100209	<1	7.5	2.65	<0.1				<0.015	<0.01	<0.5	<10	<0.08	5.64	<0.3	0.419	57.2	<0.4	<1	9.53	9.63	1.1
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)										0.0075	0.75	7.5	750	3.75	37.5	1,500	7.5		15		75	150	
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)			1.5 AA 2.6 MAC (good status)							3.4 AA	0.07 MAC	25 AA		≤0.08- 0.25 AA ≤0.45-1.5 MAC		5 or 30 AA	1.2 AA 14 MAC #		4 AA 34 MAC #		50 AA		
EPA Interim Guideline Values 2003 (IGV)				NAC							1	10	1,000	5	30	30	10	50	20		100	150	50
European Union (Drinking Water) Regulations 2014 (DWR)											1	10	1,000	5	50	2,000	10	50	20	10		200	
EPA Hazardous Substances Minimum Reporting Value (MRV)											0.01			0.1									

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	Potassium	Calcium	Iron	Aluminium	Antimony	Barium	Beryllium	Molybdenum	Vanadium	Phenols	Phenol	Cresols	Xylenols	2,3,5-Trimethylphenol	2-Isopropylphenol	Sum of Detected Monohydric Phenols	TPH Criteria Working Group (TPH CWG)	GRO Surrogate % recovery**	GRO >C5-C12	Methyl tertiary butyl ether (MTBE)	Benzene	Toluene	Ethylbenzene	m,p-Xylene
LOD			<2.335	<0.012	<0.019	<10	<1	<0.2	<0.1	<3.0	<1.0		<0.002	<0.006	<0.008	<0.003	<0.006	<0.025			<50	<3	<7	<4	<5	<8
Round 1 Monitoring Results			mg/l	mg/l	mg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		%	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<2.34	72.6	0.117								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		98	<50	<3	<7	<4	<5	<8
BH02	06/11/2012	6472544	<2.34	5.51	1.96								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		95	<50	<3	<7	<4	<5	<8
BH03	06/11/2012	6472545	<2.34	9.46	1.91								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		100	<50	<3	<7	<4	<5	<8
BH04	06/11/2012	6472546	<2.34	28.4	1.1								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		88	512	<3	<7	<4	7	40
BH05	06/11/2012	6472547	<2.34	23	0.464								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		92	<50	<3	<7	<4	<5	<8
BH06	06/11/2012	6472548	6.78	55	0.371								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		80	<50	<3	<7	<4	<5	<8
SW01 (Upstream)	06/11/2012	6472550	<2.34	0.608	1.27								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		97	<50	<3	<7	<4	<5	<8
SW02 (Immediately downstream)	06/11/2012	6472554	<2.34	18.2	0.477								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		103	<50	<3	<7	<4	<5	<8
SW03 (Downstream)	06/11/2012	6472555	<2.34	4.72	0.885								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		104	<50	<3	<7	<4	<5	<8
Round 2 Monitoring Results																										
BH01	13/11/2012	121116-106	<2.34	69.5	<0.019								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
BH02	13/11/2012	121116-106	<2.34	4.18	0.0484								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
BH03	13/11/2012	121116-106	<2.34	9.73	<0.019								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
BH04	13/11/2012	121116-106	<2.34	13.3	0.665								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
BH05	13/11/2012	121116-106	<2.34	15.8	0.289								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
BH06	13/11/2012	121116-106	4.95	37.2	0.342								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
SW01 (Upstream)	13/11/2012	121116-106	<2.34	<0.012	1.21								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
SW02 (Immediately downstream)	13/11/2012	121116-106	<2.34	19.1	0.495								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
SW03 (Downstream)	13/11/2012	121116-106	<2.34	2.57	0.828								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025								
Round 3 Monitoring Results																										
BH01	09/01/2013	6758691	<2.34	80.6	<0.019								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		102	<50	<3	<7	<4	<5	<8
BH02	09/01/2013	6758693	<2.34	3.34	1.86								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		106	<50	<3	<7	<4	<5	<8
BH03	09/01/2013	6758688	<2.34	13.1	0.0331								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		108	<50	<3	<7	<4	<5	<8
BH04	09/01/2013	6758694	<2.34	23.3	1.32								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		106	<50	<3	<7	<4	<5	<8
BH05	09/01/2013	6758692	<2.34	10.4	3.35								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		101	<50	<3	<7	<4	<5	<8
BH06	09/01/2013	6758686	3.8	21.7	0.228								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		110	<50	<3	<7	<4	<5	<8
SW01 (Upstream)	09/01/2013	6758685	<2.34	0.268	1.45								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		106	<50	<3	<7	<4	<5	<8
SW02 (Immediately downstream)	09/01/2013	6758690	<2.34	18.9	0.465								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		109	<50	<3	<7	<4	<5	<8
SW03 (Downstream)	09/01/2013	6758687	<2.34	3.5	0.975								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		108	<50	<3	<7	<4	<5	<8
Round 4 Monitoring Results																										
BH01	19/11/2013	8456298	1.14	53	0.108								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		116	<50	<3	<7	<4	<5	<8
BH02	19/11/2013	8456300	<1	4.27	16.8								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		117	<50	<3	<7	<4	<5	<8
BH03	19/11/2013	8456302	<1	9.14	14								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		124	<50	<3	<7	<4	<5	<8
BH04	19/11/2013	8456304	<1	10.4	13.2								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		122	<50	<3	<7	<4	<5	<8
BH05	19/11/2013	8456305	<1	13.2	14								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		112	<50	<3	<7	<4	<5	<8
BH06	19/11/2013	8456306	3.62	21.5	0.401								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		113	<50	<3	<7	<4	<5	<8
SW01 (Upstream)	19/11/2013	8456313	<1	1.28	1.03								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		119	<50	<3	<7	<4	<5	<8
SW02 (Immediately downstream)	19/11/2013	8456315	<1	13.5	0.513								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		99	<50	<3	<7	<4	<5	<8
SW03 (Downstream)	19/11/2013	8456317	<1	3.96	0.554								<0.002	<0.006	<0.008	<0.003	<0.006	<0.025		126	<50	<3	<7	<4	<5	<8
Round 5 Monitoring Result																										
BH01	06/10/2020	23000161	0.585	19.3	1.19	92.7	<1	17	<0.1	<3	<1		<0.005	<0.005	<0.005			<0.005		88	<50	<3	<7	<4	<5	<8
BH02	06/10/2020	23000162	0.751	5.27	20.3	18.1	<1	6.12	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		101	<50	<3	<7	<4	<5	<8
BH03	06/10/2020	23000163	0.627	8.72	24.6	<10	<1	7.15	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		102	<50	<3	<7	<4	<5	<8
BH06	06/10/2020	23000164	3.71	42.3	0.0653	18.8	<1	30.2	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		109	<50	<3	<7	<4	<5	<8
SW01 (Upstream)	06/10/2020	23000165	0.283	0.888	1.27	93.4	<1	0.923	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		102	<50	<3	<7	<4	<5	<8
SW02 (Immediately downstream)	06/10/2020	23000166	0.732	12	0.779	110	<1	24.7	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		101	<50	<3	<7	<4	<5	<8
SW03 (Downstream)	06/10/2020	23000167	0.345	2.72	1.1	61.2	<1	1.68	<0.1	<3	<1		<0.0005	0.0006	<0.0005			0.0006		97	<50	<3	<7	<4	<5	<8
Round 6 Monitoring Results																										
BH01	20/10/2020	23100210	0.236	3.74	0.301	353	<1	8.67	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		107	<50	<3	<7	<4	<5	<8
BH02	20/10/2020	23100211	0.876	5.9	0.137	<10	<1	4.15	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		106	<50	<3	<7	<4	<5	<8
BH03	20/10/2020	23100213	2.06	7.1	0.779	<10	<1	9.06	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		105	<50	<3	<7	<4	<5	<8
BH06	20/10/2020	23100214	4.05	61.1	0.134	<10	<1	37.9	<0.1	5.44	<1		<0.0005	<0.0005	<0.0005			<0.0005		102	<50	<3	<7	<4	<5	<8
SW01 (Upstream)	20/10/2020	23100207	0.381	0.838	1.36	97.5	<1	1.07	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		103	<50	<3	<7	<4	<5	<8
SW02 (Immediately downstream)	20/10/2020	23100208	0.873	11.5	0.848	102	<1	25.2	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		108	<50	<3	<7	<4	<5	<8
SW03 (Downstream)	20/10/2020	23100209	0.497	2.38	1.21	66	<1	2.13	<0.1	<3	<1		<0.0005	<0.0005	<0.0005			<0.0005		103	<50	<3	<7	<4	<5	<8
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)						150																10	0.75	525		
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)													0.008 AA 0.046 MAC										10 AA 50 MAC	10 AA		
EPA Interim Guideline Values 2003 (IGV)			5	200	0.2	200		100					0.0005										1	10		10
European Union (Drinking Water) Regulations 2014 (DWR)					0.2	200	5																1			
EPA Hazardous Substances Minimum Reporting Value (MRV)																							1	4		3

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	o-Xylene	Sum of detected Xylenes	Sum of detected BTEX	Aliphatics >C5-C6	Aliphatics >C6-C8	Aliphatics >C8-C10	Aliphatics >C10-C12	Aliphatics >C12-C16 (aq)	Aliphatics >C16-C21 (aq)	Aliphatics >C21-C35 (aq)	Total Aliphatics >C12-C35 (aq)	Aromatics >EC5-EC7	Aromatics >EC7-EC8	Aromatics >EC8-EC10	Aromatics >EC10-EC12	Aromatics >EC12-EC16 (aq)	Aromatics >EC16-EC21 (aq)	Aromatics >EC21-EC35 (aq)	Total Aromatics >EC12-EC35 (aq)	Total Aliphatics & Aromatics >C5-35 (aq)	Aliphatics >C16-C35 Aqueous	Polyaromatic Hydrocarbons (PAHs)	Naphthalene	Acenaphthene	Acenaphthylene
LOD			<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH02	06/11/2012	6472544	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH03	06/11/2012	6472545	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH04	06/11/2012	6472546	14	54	61	<10	21	135	118	62	515	17700	18300	<10	<10	151	79	104	285	4380	4770	23600				4.55	0.543	0.138
BH05	06/11/2012	6472547	<3	<11	<28	<10	<10	<10	<10	<10	25	676	701	<10	<10	<10	<10	<10	<10	65	65	767				<0.1	<0.015	<0.011
BH06	06/11/2012	6472548	<3	<11	<28	<10	<10	<10	<10	64	257	4650	4970	<10	<10	<10	<10	<10	21	454	475	5450				<0.3	<0.045	<0.033
SW01 (Upstream)	06/11/2012	6472550	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	0.0168	<0.011
SW02 (Immediately downstream)	06/11/2012	6472554	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
SW03 (Downstream)	06/11/2012	6472555	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
Round 2 Monitoring Results																												
BH01	13/11/2012	121116-106																								<0.1	<0.015	<0.011
BH02	13/11/2012	121116-106																								<0.1	<0.015	<0.011
BH03	13/11/2012	121116-106																								<0.1	<0.015	<0.011
BH04	13/11/2012	121116-106																								<0.1	<0.015	<0.011
BH05	13/11/2012	121116-106																								<0.1	<0.015	<0.011
BH06	13/11/2012	121116-106																								<0.1	<0.015	<0.011
SW01 (Upstream)	13/11/2012	121116-106																								<0.1	<0.015	<0.011
SW02 (Immediately downstream)	13/11/2012	121116-106																								<0.1	<0.015	<0.011
SW03 (Downstream)	13/11/2012	121116-106																								<0.1	<0.015	<0.011
Round 3 Monitoring Results																												
BH01	09/01/2013	6758691	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH02	09/01/2013	6758693	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH03	09/01/2013	6758688	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH04	09/01/2013	6758694	<3	<11	<28	<10	<10	<10	<10	<10	83	2920	3000	<10	<10	<10	<10	<10	42	991	1030	4050				<0.1	<0.015	<0.011
BH05	09/01/2013	6758692	<3	<11	<28	<10	<10	<10	<10	<10	101	3730	3830	<10	<10	<10	<10	<10	83	1660	1750	5580				<2	<0.3	0.226
BH06	09/01/2013	6758686	<3	<11	<28	<10	<10	<10	<10	<10	<10	165	165	<10	<10	<10	<10	<10	<10	14	14	179				<0.1	<0.015	<0.011
SW01 (Upstream)	09/01/2013	6758685	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
SW02 (Immediately downstream)	09/01/2013	6758690	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
SW03 (Downstream)	09/01/2013	6758687	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
Round 4 Monitoring Results																												
BH01	19/11/2013	8456298	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH02	19/11/2013	8456300	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH03	19/11/2013	8456302	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
BH04	19/11/2013	8456304	<3	<11	<28	<10	<10	<10	10	10	13	1080	1130	<10	<10	<10	<10	<10	24	390	414	1570				<0.1	<0.015	<0.011
BH05	19/11/2013	8456305	<3	<11	<28	<10	<10	<10	<10	<10	22	810	832	<10	<10	<10	<10	<10	<10	364	364	1210				<1	<0.15	<0.11
BH06	19/11/2013	8456306	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
SW01 (Upstream)	19/11/2013	8456313	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
SW02 (Immediately downstream)	19/11/2013	8456315	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
SW03 (Downstream)	19/11/2013	8456317	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10			<0.1	<0.015	<0.011
Round 5 Monitoring Result																												
BH01	06/10/2020	23000161	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
BH02	06/10/2020	23000162	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
BH03	06/10/2020	23000163	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
BH06	06/10/2020	23000164	<3	<11	<28	<10	<10	<10	<10	<10	<10	78	78	<10	<10	<10	<10	<10	<10	19	19	97	78			<0.1	<0.05	<0.05
SW01 (Upstream)	06/10/2020	23000165	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
SW02 (Immediately downstream)	06/10/2020	23000166	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
SW03 (Downstream)	06/10/2020	23000167	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
Round 6 Monitoring Results																												
BH01	20/10/2020	23100210	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		0.0535	<0.005	<0.005
BH02	20/10/2020	23100211	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		<0.01	<0.005	<0.005
BH03	20/10/2020	23100213	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		0.0476	<0.005	<0.005
BH06	20/10/2020	23100214	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		0.134	0.0148	<0.005
SW01 (Upstream)	20/10/2020	23100207	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		0.0207	<0.005	<0.005
SW02 (Immediately downstream)	20/10/2020	23100208	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		0.179	0.0206	<0.005
SW03 (Downstream)	20/10/2020	23100209	<3	<11	<28	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10		0.0313	0.0206	<0.005
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)																						7.5	7.5			∑PAH6 0.075		
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)																										2 AA 130 MAC		
EPA Interim Guideline Values 2003 (IGV)																						10	10			1		
European Union (Drinking Water) Regulations 2014 (DWR)																												
EPA Hazardous Substances Minimum Reporting Value (MRV)			3																									

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	Fluoranthene	Anthracene	Phenanthrene	Fluorene	Chrysene	Pyrene	Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Indeno(1,2,3-cd)pyrene	PAH, Total Detected USEPA 16	PCB's	PCB congener 118	PCB congener 77	PCB congener 81	PCB congener 105	PCB congener 114	PCB congener 123
LOD			<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH02	06/11/2012	6472544	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH03	06/11/2012	6472545	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH04	06/11/2012	6472546	1.88	1.52	6.83	1.8	1.53	4.31	1.34	2.05	1.03	2.68	0.564	10.6	1.49	42.8		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH05	06/11/2012	6472547	0.102	0.0194	0.0736	0.0153	0.078	0.134	0.0689	0.0692	0.0675	0.0884	0.0178	0.13	0.0556	0.92		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH06	06/11/2012	6472548	<0.051	<0.045	<0.066	<0.042	<0.039	<0.045	<0.051	<0.069	<0.081	<0.027	<0.048	<0.048	<0.042	<0.741		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
SW01 (Upstream)	06/11/2012	6472550	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
SW02 (Immediately downstream)	06/11/2012	6472554	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
SW03 (Downstream)	06/11/2012	6472555	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Round 2 Monitoring Results																							
BH01	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
BH02	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
BH03	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
BH04	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	0.0211	0.17	0.018	0.0272	<0.027	0.0391	<0.016	0.117	0.0165	0.409							
BH05	13/11/2012	121116-106	0.0957	0.0156	0.0749	<0.014	0.0629	0.129	0.0644	0.0576	0.0563	0.0699	<0.016	0.0993	0.04	0.766							
BH06	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
SW01 (Upstream)	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
SW02 (Immediately downstream)	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
SW03 (Downstream)	13/11/2012	121116-106	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
Round 3 Monitoring Results																							
BH01	09/01/2013	6758691	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
BH02	09/01/2013	6758693	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
BH03	09/01/2013	6758688	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
BH04	09/01/2013	6758694	0.127	0.0225	0.0686	<0.014	0.187	0.829	0.132	0.256	0.119	0.344	0.0607	1.59	0.21	3.94							
BH05	09/01/2013	6758692	1.75	0.488	1.4	0.287	2.49	2.21	2.44	2.37	1.87	2.39	0.449	2.96	1.16	23.1							
BH06	09/01/2013	6758686	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
SW01 (Upstream)	09/01/2013	6758685	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
SW02 (Immediately downstream)	09/01/2013	6758690	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
SW03 (Downstream)	09/01/2013	6758687	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247							
Round 4 Monitoring Results																							
BH01	19/11/2013	8456298	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH02	19/11/2013	8456300	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH03	19/11/2013	8456302	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH04	19/11/2013	8456304	<0.017	<0.015	<0.022	<0.014	0.0333	0.235	<0.017	0.0467	<0.027	0.067	<0.016	0.332	0.0291	0.743		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH05	19/11/2013	8456305	<0.17	<0.15	<0.22	<0.14	0.177	0.213	<0.17	<0.23	<0.27	0.157	<0.16	0.206	<0.14	<2.47		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
BH06	19/11/2013	8456306	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
SW01 (Upstream)	19/11/2013	8456313	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
SW02 (Immediately downstream)	19/11/2013	8456315	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
SW03 (Downstream)	19/11/2013	8456317	<0.017	<0.015	<0.022	<0.014	<0.013	<0.015	<0.017	<0.023	<0.027	<0.009	<0.016	<0.016	<0.014	<0.247		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Round 5 Monitoring Result																							
BH01	06/10/2020	23000161	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
BH02	06/10/2020	23000162	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
BH03	06/10/2020	23000163	<0.005	<0.005	<0.005	<0.005	<0.005	0.0141	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
BH06	06/10/2020	23000164	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.82							
SW01 (Upstream)	06/10/2020	23000165	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
SW02 (Immediately downstream)	06/10/2020	23000166	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
SW03 (Downstream)	06/10/2020	23000167	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
Round 6 Monitoring Results																							
BH01	20/10/2020	23100210	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
BH02	20/10/2020	23100211	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
BH03	20/10/2020	23100213	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
BH06	20/10/2020	23100214	<0.005	<0.005	0.0136	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	0.163							
SW01 (Upstream)	20/10/2020	23100207	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	<0.082							
SW02 (Immediately downstream)	20/10/2020	23100208	<0.005	<0.005	0.0142	0.00615	<0.005	<0.005	<0.005	<0.005	<0.005	<0.002	<0.005	<0.005	<0.005	0.22							
SW03 (Downstream)	20/10/2020	23100209	<0.005	0.00713	0.0075	<0.005	0.0136	<0.005	0.0119	<0.005	<0.005	<0.002	<0.005	0.0303	<0.005	0.122							
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)				∑PAH6 0.075						∑PAH6 0.075	∑PAH6 0.075	0.0075		∑PAH6 0.075	∑PAH6 0.075	∑PAH6 0.075							
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)			0.0063 AA 0.12 MAC	0.1 AA 0.1 MAC						0.017 MAC	0.017 MAC	0.00017 AA 0.27 MAC		0.0082 MAC									
EPA Interim Guideline Values 2003 (IGV)			1	10,000						0.5	0.05	0.01		0.05	0.05	0.1							
European Union (Drinking Water) Regulations 2014 (DWR)										∑PAH4 0.10	∑PAH4 0.10	0.01		∑PAH4 0.10	∑PAH4 0.10								
EPA Hazardous Substances Minimum Reporting Value (MRV)																		0.001	0.001	0.001	0.001	0.001	0.001

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	PCB congener 126	PCB congener 156	PCB congener 157	PCB congener 167	PCB congener 169	PCB congener 189	Semi-Volatile Organic Compounds (SVOCs)	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3-Nitroaniline	4-Bromophenylphenylether
LOD			<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	06/11/2012	6472544	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/11/2012	6472545	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04	06/11/2012	6472546	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05	06/11/2012	6472547	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	06/11/2012	6472548	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	06/11/2012	6472550	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/11/2012	6472554	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/11/2012	6472555	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 2 Monitoring Results																											
BH01	13/11/2012	121116-106																									
BH02	13/11/2012	121116-106																									
BH03	13/11/2012	121116-106																									
BH04	13/11/2012	121116-106																									
BH05	13/11/2012	121116-106																									
BH06	13/11/2012	121116-106																									
SW01 (Upstream)	13/11/2012	121116-106																									
SW02 (Immediately downstream)	13/11/2012	121116-106																									
SW03 (Downstream)	13/11/2012	121116-106																									
Round 3 Monitoring Results																											
BH01	09/01/2013	6758691																									
BH02	09/01/2013	6758693																									
BH03	09/01/2013	6758688																									
BH04	09/01/2013	6758694																									
BH05	09/01/2013	6758692																									
BH06	09/01/2013	6758686																									
SW01 (Upstream)	09/01/2013	6758685																									
SW02 (Immediately downstream)	09/01/2013	6758690																									
SW03 (Downstream)	09/01/2013	6758687																									
Round 4 Monitoring Results																											
BH01	19/11/2013	8456298	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	19/11/2013	8456300	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	19/11/2013	8456302	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04	19/11/2013	8456304	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05	19/11/2013	8456305	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	19/11/2013	8456306	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	19/11/2013	8456313	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	19/11/2013	8456315	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	19/11/2013	8456317	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 5 Monitoring Result																											
BH01	06/10/2020	23000161								<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
BH02	06/10/2020	23000162								<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/10/2020	23000163								<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
BH06	06/10/2020	23000164								<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8	<8
SW01 (Upstream)	06/10/2020	23000165								<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/10/2020	23000166								<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/10/2020	23000167								<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Round 6 Monitoring Results																											
BH01	20/10/2020	23100210								<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
BH02	20/10/2020	23100211								<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
BH03	20/10/2020	23100213								<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
BH06	20/10/2020	23100214								<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
SW01 (Upstream)	20/10/2020	23100207								<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
SW02 (Immediately downstream)	20/10/2020	23100208								<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
SW03 (Downstream)	20/10/2020	23100209								<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)																											
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)																											
EPA Interim Guideline Values 2003 (IGV)										0.4	10				200						200						
European Union (Drinking Water) Regulations 2014 (DWR)																											
EPA Hazardous Substances Minimum Reporting Value (MRV)			0.001	0.001	0.001	0.001	0.001	0.001		0.01						0.1					0.1						

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenylphenylether	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Azobenzene	bis(2-Chloroethyl)ether	bis(2-Chloroethoxy)methane	bis(2-Ethylhexyl) phthalate	Butylbenzyl phthalate	Carbazole	Dibenzofuran	n-Dibutyl phthalate	Diethyl phthalate	Dimethyl phthalate	n-Dioctyl phthalate	Hexachlorobenzene	Hexachlorobutadiene	Pentachlorophenol	n-Nitroso-n-dipropylamine	Hexachloroethane	Nitrobenzene	Isophorone	Hexachlorocyclopentadiene
LOD			<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.75	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH02	06/11/2012	6472544	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/11/2012	6472545	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.14	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH04	06/11/2012	6472546	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH05	06/11/2012	6472547	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH06	06/11/2012	6472548	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	06/11/2012	6472550	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/11/2012	6472554	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/11/2012	6472555	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
Round 2 Monitoring Results																											
BH01	13/11/2012	121116-106																									
BH02	13/11/2012	121116-106																									
BH03	13/11/2012	121116-106																									
BH04	13/11/2012	121116-106																									
BH05	13/11/2012	121116-106																									
BH06	13/11/2012	121116-106																									
SW01 (Upstream)	13/11/2012	121116-106																									
SW02 (Immediately downstream)	13/11/2012	121116-106																									
SW03 (Downstream)	13/11/2012	121116-106																									
Round 3 Monitoring Results																											
BH01	09/01/2013	6758691																									
BH02	09/01/2013	6758693																									
BH03	09/01/2013	6758688																									
BH04	09/01/2013	6758694																									
BH05	09/01/2013	6758692																									
BH06	09/01/2013	6758686																									
SW01 (Upstream)	09/01/2013	6758685																									
SW02 (Immediately downstream)	09/01/2013	6758690																									
SW03 (Downstream)	09/01/2013	6758687																									
Round 4 Monitoring Results																											
BH01	19/11/2013	8456298	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH02	19/11/2013	8456300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH03	19/11/2013	8456302	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH04	19/11/2013	8456304	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH05	19/11/2013	8456305	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH06	19/11/2013	8456306	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	19/11/2013	8456313	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	19/11/2013	8456315	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	19/11/2013	8456317	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
Round 5 Monitoring Result																											
BH01	06/10/2020	23000161	<40	<40	<40	<40	<40	<40	<40	<40	<40	<80	<40	<40	<40	<40	<40	<40	<200	<40	<40	<40	<40	<40	<40	<40	<40
BH02	06/10/2020	23000162	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/10/2020	23000163	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10
BH06	06/10/2020	23000164	<8	<8	<8	<8	<8	<8	<8	<8	<8	<16	<8	<8	<8	<8	<8	<8	<40	<8	<8	<8	<8	<8	<8	<8	<8
SW01 (Upstream)	06/10/2020	23000165	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.82	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/10/2020	23000166	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<5	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/10/2020	23000167	<2	<2	<2	<2	<2	<2	<2	<2	<2	<4	<2	<2	<2	<2	<2	<2	<10	<2	<2	<2	<2	<2	<2	<2	<2
Round 6 Monitoring Results																											
BH01	20/10/2020	23100210	<4	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4
BH02	20/10/2020	23100211	<4	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4
BH03	20/10/2020	23100213	<4	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4
BH06	20/10/2020	23100214	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<10	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10
SW01 (Upstream)	20/10/2020	23100207	<4	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4
SW02 (Immediately downstream)	20/10/2020	23100208	<4	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4
SW03 (Downstream)	20/10/2020	23100209	<4	<4	<4	<4	<4	<4	<4	<4	<4	<8	<4	<4	<4	<4	<4	<4	<20	<4	<4	<4	<4	<4	<4	<4	<4
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)																											
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)																				0.05 MAC	0.6 MAC	0.4 AA 1 MAC					
EPA Interim Guideline Values 2003 (IGV)																2				0.03	0.1	2			10		
European Union (Drinking Water) Regulations 2014 (DWR)																											
EPA Hazardous Substances Minimum Reporting Value (MRV)			0.1																	0.001	0.005	0.1					

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	SVOC TIC	Total SVOC TIC	Volatile Organic Compounds (VOCs)	Dibromofluoromethane	Toluene-d8	4-Bromofluorobenzene	Dichlorodifluoromethane	Chloromethane	Vinyl chloride	Bromomethane	Chloroethane	Trichlorofluoromethane	1,1-Dichloroethene	Carbon disulphide	Dichloromethane	Methyl tertiary butyl ether (MTBE)	trans-1,2-Dichloroethene	1,1-Dichloroethane	cis-1,2-Dichloroethene	2,2-Dichloropropane	Bromochloromethane	Chloroform	1,1,1-Trichloroethane	1,1-Dichloropropene	Carbontetrachloride
LOD				<10					<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 1 Monitoring Results			No units	µg/l		%	%	%	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543				113	100	97.3	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	06/11/2012	6472544				110	99	97.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/11/2012	6472545				109	99.2	98.6	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04	06/11/2012	6472546				106	95	83.7	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05	06/11/2012	6472547				108	96.6	79.6	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	06/11/2012	6472548				112	93.6	74.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	06/11/2012	6472550				111	99.7	97.4	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/11/2012	6472554				111	99.5	96.4	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/11/2012	6472555				111	99.3	97.9	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 2 Monitoring Results																												
BH01	13/11/2012	121116-106																										
BH02	13/11/2012	121116-106																										
BH03	13/11/2012	121116-106																										
BH04	13/11/2012	121116-106																										
BH05	13/11/2012	121116-106																										
BH06	13/11/2012	121116-106																										
SW01 (Upstream)	13/11/2012	121116-106																										
SW02 (Immediately downstream)	13/11/2012	121116-106																										
SW03 (Downstream)	13/11/2012	121116-106																										
Round 3 Monitoring Results																												
BH01	09/01/2013	6758691																										
BH02	09/01/2013	6758693																										
BH03	09/01/2013	6758688																										
BH04	09/01/2013	6758694																										
BH05	09/01/2013	6758692																										
BH06	09/01/2013	6758686																										
SW01 (Upstream)	09/01/2013	6758685																										
SW02 (Immediately downstream)	09/01/2013	6758690																										
SW03 (Downstream)	09/01/2013	6758687																										
Round 4 Monitoring Results																												
BH01	19/11/2013	8456298				111	98.8	96.8	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	19/11/2013	8456300				110	99.4	97	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	19/11/2013	8456302				111	99.8	97.3	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04	19/11/2013	8456304				109	98.5	96.1	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05	19/11/2013	8456305				111	97.4	91	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	19/11/2013	8456306				109	99.1	95.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	19/11/2013	8456313				109	100	97.2	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	19/11/2013	8456315				108	99.6	97.7	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	19/11/2013	8456317				110	99.8	97.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 5 Monitoring Result																												
BH01	06/10/2020	23000161	Not Detected	<400		113	99	95.1	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	06/10/2020	23000162	Not Detected	<10		119	99.4	96.9	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/10/2020	23000163	Not Detected	<100		113	98.3	97.7	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	06/10/2020	23000164	Not Detected	<80		112	97.9	94.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	06/10/2020	23000165	Not Detected	<10		114	99.4	99.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/10/2020	23000166	Not Detected	<10		114	100	95.8	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/10/2020	23000167	Not Detected	<20		115	99.5	96.9	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 6 Monitoring Results																												
BH01	20/10/2020	23100210	Not Detected	<40		108	98.2	97	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	20/10/2020	23100211	Not Detected	<40		113	98.2	96.7	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	20/10/2020	23100213	Not Detected	<40		113	98.6	95.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	20/10/2020	23100214	Not Detected	<100		112	98.3	98.2	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	20/10/2020	23100207	Not Detected	<40		114	98.3	99.2	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	20/10/2020	23100208	Not Detected	<40		108	98.2	96.8	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	20/10/2020	23100209	Not Detected	<40		108	98.8	98.5	<1	<1	<1	<1	<1	<1	<1	<1	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)											0.375						15	10									
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)																	20 AA										12 AA
EPA Interim Guideline Values 2003 (IGV)																	10	30						12	500		
European Union (Drinking Water) Regulations 2014 (DWR)											0.5																
EPA Hazardous Substances Minimum Reporting Value (MRV)																								0.1	0.1		

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	1,2-Dichloroethane	Benzene	Trichloroethene	1,2-Dichloropropane	Dibromomethane	Bromodichloromethane	cis-1,3-Dichloropropene	Toluene	trans-1,3-Dichloropropene	1,1,2-Trichloroethane	1,3-Dichloropropane	Tetrachloroethene	Dibromochloromethane	1,2-Dibromoethane	Chlorobenzene	1,1,1,2-Tetrachloroethane	Ethylbenzene	m,p-Xylene	o-Xylene	Styrene	Bromoform	Isopropylbenzene	1,1,2,2-Tetrachloroethane	1,2,3-Trichloropropane	Bromobenzene
LOD			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	06/11/2012	6472544	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/11/2012	6472545	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04	06/11/2012	6472546	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.08	40.8	14.9	<1	<1	1.14	<1	<1	<1
BH05	06/11/2012	6472547	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	06/11/2012	6472548	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	06/11/2012	6472550	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/11/2012	6472554	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/11/2012	6472555	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 2 Monitoring Results																											
BH01	13/11/2012	121116-106																									
BH02	13/11/2012	121116-106																									
BH03	13/11/2012	121116-106																									
BH04	13/11/2012	121116-106																									
BH05	13/11/2012	121116-106																									
BH06	13/11/2012	121116-106																									
SW01 (Upstream)	13/11/2012	121116-106																									
SW02 (Immediately downstream)	13/11/2012	121116-106																									
SW03 (Downstream)	13/11/2012	121116-106																									
Round 3 Monitoring Results																											
BH01	09/01/2013	6758691																									
BH02	09/01/2013	6758693																									
BH03	09/01/2013	6758688																									
BH04	09/01/2013	6758694																									
BH05	09/01/2013	6758692																									
BH06	09/01/2013	6758686																									
SW01 (Upstream)	09/01/2013	6758685																									
SW02 (Immediately downstream)	09/01/2013	6758690																									
SW03 (Downstream)	09/01/2013	6758687																									
Round 4 Monitoring Results																											
BH01	19/11/2013	8456298	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	19/11/2013	8456300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	19/11/2013	8456302	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH04	19/11/2013	8456304	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH05	19/11/2013	8456305	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	19/11/2013	8456306	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	19/11/2013	8456313	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	19/11/2013	8456315	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	19/11/2013	8456317	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 5 Monitoring Result																											
BH01	06/10/2020	23000161	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	06/10/2020	23000162	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	06/10/2020	23000163	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	06/10/2020	23000164	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	06/10/2020	23000165	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	06/10/2020	23000166	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	06/10/2020	23000167	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Round 6 Monitoring Results																											
BH01	20/10/2020	23100210	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH02	20/10/2020	23100211	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH03	20/10/2020	23100213	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
BH06	20/10/2020	23100214	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW01 (Upstream)	20/10/2020	23100207	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW02 (Immediately downstream)	20/10/2020	23100208	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SW03 (Downstream)	20/10/2020	23100209	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)			2.25	0.75	∑2VOC 7.5									∑2VOC 7.5													
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)			10 AA	10 AA 50 MAC	10 AA									10 AA													
EPA Interim Guideline Values 2003 (IGV)			3	1	70									40			1		10	10							
European Union (Drinking Water) Regulations 2014 (DWR)			3	1	∑2VOC 10									∑2VOC 10													
EPA Hazardous Substances Minimum Reporting Value (MRV)			1	1						4		0.1		0.1						3	3						

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	Propylbenzene	2-Chlorotoluene	1,3,5-Trimethylbenzene	4-Chlorotoluene	tert-Butylbenzene	1,2,4-Trimethylbenzene	sec-Butylbenzene	4-iso-Propyltoluene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	1,2-Dibromo-3-chloropropane	1,2,4-Trichlorobenzene	Hexachlorobutadiene	tert-Amyl methyl ether (TAME)	1,2,3-Trichlorobenzene	1,3,5-Trichlorobenzene	VOC TIC	Sum of detected Xylenes	Total VOC TIC	Phenoxy Acid Herbicides	Phenoxyacetic acid (PAA)	Dicamba	Phenoxypropionic acid (PPA)
LOD			<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		<2	<10		<0.031	<0.033	<0.023
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	No units	µg/l	µg/l		µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH02	06/11/2012	6472544	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH03	06/11/2012	6472545	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH04	06/11/2012	6472546	3.64	<1	10.9	<1	<1	35.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.0443	<0.0472	<0.0329
BH05	06/11/2012	6472547	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.0443	<0.0472	<0.0329
BH06	06/11/2012	6472548	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				0.0648	<0.0508	<0.0354
SW01 (Upstream)	06/11/2012	6472550	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
SW02 (Immediately downstream)	06/11/2012	6472554	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				0.106	<0.033	<0.023
SW03 (Downstream)	06/11/2012	6472555	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				0.0815	<0.033	<0.023
Round 2 Monitoring Results																											
BH01	13/11/2012	121116-106																									
BH02	13/11/2012	121116-106																									
BH03	13/11/2012	121116-106																									
BH04	13/11/2012	121116-106																									
BH05	13/11/2012	121116-106																									
BH06	13/11/2012	121116-106																									
SW01 (Upstream)	13/11/2012	121116-106																									
SW02 (Immediately downstream)	13/11/2012	121116-106																									
SW03 (Downstream)	13/11/2012	121116-106																									
Round 3 Monitoring Results																											
BH01	09/01/2013	6758691																									
BH02	09/01/2013	6758693																									
BH03	09/01/2013	6758688																									
BH04	09/01/2013	6758694																									
BH05	09/01/2013	6758692																									
BH06	09/01/2013	6758686																									
SW01 (Upstream)	09/01/2013	6758685																									
SW02 (Immediately downstream)	09/01/2013	6758690																									
SW03 (Downstream)	09/01/2013	6758687																									
Round 4 Monitoring Results																											
BH01	19/11/2013	8456298	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH02	19/11/2013	8456300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH03	19/11/2013	8456302	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH04	19/11/2013	8456304	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH05	19/11/2013	8456305	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
BH06	19/11/2013	8456306	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
SW01 (Upstream)	19/11/2013	8456313	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
SW02 (Immediately downstream)	19/11/2013	8456315	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
SW03 (Downstream)	19/11/2013	8456317	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1				<0.031	<0.033	<0.023
Round 5 Monitoring Result																											
BH01	06/10/2020	23000161	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
BH02	06/10/2020	23000162	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
BH03	06/10/2020	23000163	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
BH06	06/10/2020	23000164	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
SW01 (Upstream)	06/10/2020	23000165	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
SW02 (Immediately downstream)	06/10/2020	23000166	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
SW03 (Downstream)	06/10/2020	23000167	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
Round 6 Monitoring Results																											
BH01	20/10/2020	23100210	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
BH02	20/10/2020	23100211	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
BH03	20/10/2020	23100213	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
BH06	20/10/2020	23100214	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
SW01 (Upstream)	20/10/2020	23100207	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
SW02 (Immediately downstream)	20/10/2020	23100208	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
SW03 (Downstream)	20/10/2020	23100209	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Not Detected	<2	<10				
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)																											
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)																											
EPA Interim Guideline Values 2003 (IGV)																											
European Union (Drinking Water) Regulations 2014 (DWR)																											
EPA Hazardous Substances Minimum Reporting Value (MRV)																0.01	0.005		0.01	0.01							

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	4-Chlorophenoxyacetic acid (4-CPA)	4-Phenoxybutyric acid	Bentazone	Bromoxynil	2,4-Dichlorophenoxy acetic acid (2,4-D)	2-methyl-4-Chlorophenoxyacetic acid (MCPA)	2-methyl-4,6-Dinitrophenol	Triclopyr	Ioxynil	2,4-Dichlorophenoxy acetic acid (2,4-DP)	2,4,5-Trichlorophenol (2,4,5-T)	Mecoprop (MCPP)	4-(2,4-Dichlorophenoxy) butyric acid (2,4-D)	4-(4-Chloro-o-tolyloxy) butyric acid (MCPB)	2-(2,4,5-Trichlorophenoxy) propionic acid	Dinoseb	Pentachlorophenol	Combined Pesticides / Herbicides	Atrazine	Simazine	Dichlorvos	Mevinphos	Tecnazene	Hexachlorobenzene	Trifluralin
LOD			<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l		µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	06/11/2012	6472544	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	06/11/2012	6472545	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	06/11/2012	6472546	<0.0529	<0.0272	<0.0257	<0.0314	<0.0372	<0.0429	<0.0586	<0.0314	<0.0243	<0.0214	<0.0414	<0.0357	<0.0314	<0.0414	<0.0343	<0.0386	<0.0457		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	06/11/2012	6472547	<0.0529	<0.0272	<0.0257	<0.0314	<0.0372	<0.0429	<0.0586	<0.0314	<0.0243	<0.0214	<0.0414	<0.0357	<0.0314	<0.0414	<0.0343	<0.0386	<0.0457		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	06/11/2012	6472548	<0.0569	<0.0292	<0.0277	<0.0338	<0.04	<0.0461	<0.0631	<0.0338	<0.0261	<0.0231	<0.0446	<0.0385	<0.0338	<0.0446	<0.0369	<0.0415	<0.0492		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	06/11/2012	6472550	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	06/11/2012	6472554	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	06/11/2012	6472555	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
Round 2 Monitoring Results																											
BH01	13/11/2012	121116-106																									
BH02	13/11/2012	121116-106																									
BH03	13/11/2012	121116-106																									
BH04	13/11/2012	121116-106																									
BH05	13/11/2012	121116-106																									
BH06	13/11/2012	121116-106																									
SW01 (Upstream)	13/11/2012	121116-106																									
SW02 (Immediately downstream)	13/11/2012	121116-106																									
SW03 (Downstream)	13/11/2012	121116-106																									
Round 3 Monitoring Results																											
BH01	09/01/2013	6758691																									
BH02	09/01/2013	6758693																									
BH03	09/01/2013	6758688																									
BH04	09/01/2013	6758694																									
BH05	09/01/2013	6758692																									
BH06	09/01/2013	6758686																									
SW01 (Upstream)	09/01/2013	6758685																									
SW02 (Immediately downstream)	09/01/2013	6758690																									
SW03 (Downstream)	09/01/2013	6758687																									
Round 4 Monitoring Results																											
BH01	19/11/2013	8456298	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	19/11/2013	8456300	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	19/11/2013	8456302	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	19/11/2013	8456304	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	19/11/2013	8456305	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	19/11/2013	8456306	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	19/11/2013	8456313	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	19/11/2013	8456315	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	19/11/2013	8456317	<0.037	<0.019	<0.018	<0.022	<0.026	<0.03	<0.041	<0.022	<0.017	<0.015	<0.029	<0.025	<0.022	<0.029	<0.024	<0.027	<0.032		<1	<1	<0.01	<0.01	<0.01	<0.01	<0.01
Round 5 Monitoring Result																											
BH01	06/10/2020	23000161																									
BH02	06/10/2020	23000162																									
BH03	06/10/2020	23000163																									
BH06	06/10/2020	23000164																									
SW01 (Upstream)	06/10/2020	23000165																									
SW02 (Immediately downstream)	06/10/2020	23000166																									
SW03 (Downstream)	06/10/2020	23000167																									
Round 6 Monitoring Results																											
BH01	20/10/2020	23100210																									
BH02	20/10/2020	23100211																									
BH03	20/10/2020	23100213																									
BH06	20/10/2020	23100214																									
SW01 (Upstream)	20/10/2020	23100207																									
SW02 (Immediately downstream)	20/10/2020	23100208																									
SW03 (Downstream)	20/10/2020	23100209																									
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)					0.075		0.075	0.075						0.075							0.075	0.075					
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)																					0.6 AA 2.0 MAC	1 AA 4 MAC					
EPA Interim Guideline Values 2003 (IGV)						5								10							1	1	0.001				
European Union (Drinking Water) Regulations 2014 (DWR)																											
EPA Hazardous Substances Minimum Reporting Value (MRV)														0.04					0.1		0.03	0.03		0.005		0.001	0.01

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	alpha-Hexachlorocyclohexane (HCH / Lindane)	Quintozene (PCNB)	Diazinon	Trialiate	Etrimphos	gamma-Hexachlorocyclohexane (HCH / Lindane)	Disulfoton	Propatamphos	Heptachlor	Chlorpyriphos methyl	Dimethoate	Aldrin	Chlorothalonil	Pirimiphos-methyl	beta-Hexachlorocyclohexane (HCH / Lindane)	Chlorpyriphos	Telodrin	Methyl parathion	Isodrin	Malathion	Fenthion	Fenitrothion
LOD			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	06/11/2012	6472544	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	06/11/2012	6472545	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	06/11/2012	6472546	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0698	<0.01	<0.01	<0.01	<0.03	<0.01	<0.01	<0.01
BH05	06/11/2012	6472547	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	06/11/2012	6472548	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	06/11/2012	6472550	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	06/11/2012	6472554	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	06/11/2012	6472555	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Round 2 Monitoring Results																								
BH01	13/11/2012	121116-106																						
BH02	13/11/2012	121116-106																						
BH03	13/11/2012	121116-106																						
BH04	13/11/2012	121116-106																						
BH05	13/11/2012	121116-106																						
BH06	13/11/2012	121116-106																						
SW01 (Upstream)	13/11/2012	121116-106																						
SW02 (Immediately downstream)	13/11/2012	121116-106																						
SW03 (Downstream)	13/11/2012	121116-106																						
Round 3 Monitoring Results																								
BH01	09/01/2013	6758691																						
BH02	09/01/2013	6758693																						
BH03	09/01/2013	6758688																						
BH04	09/01/2013	6758694																						
BH05	09/01/2013	6758692																						
BH06	09/01/2013	6758686																						
SW01 (Upstream)	09/01/2013	6758685																						
SW02 (Immediately downstream)	09/01/2013	6758690																						
SW03 (Downstream)	09/01/2013	6758687																						
Round 4 Monitoring Results																								
BH01	19/11/2013	8456298	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	19/11/2013	8456300	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	19/11/2013	8456302	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	19/11/2013	8456304	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	19/11/2013	8456305	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	19/11/2013	8456306	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	19/11/2013	8456313	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	19/11/2013	8456315	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	19/11/2013	8456317	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Round 5 Monitoring Result																								
BH01	06/10/2020	23000161																						
BH02	06/10/2020	23000162																						
BH03	06/10/2020	23000163																						
BH06	06/10/2020	23000164																						
SW01 (Upstream)	06/10/2020	23000165																						
SW02 (Immediately downstream)	06/10/2020	23000166																						
SW03 (Downstream)	06/10/2020	23000167																						
Round 6 Monitoring Results																								
BH01	20/10/2020	23100210																						
BH02	20/10/2020	23100211																						
BH03	20/10/2020	23100213																						
BH06	20/10/2020	23100214																						
SW01 (Upstream)	20/10/2020	23100207																						
SW02 (Immediately downstream)	20/10/2020	23100208																						
SW03 (Downstream)	20/10/2020	23100209																						
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)			0.075																					
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)											0.0000002 AA 0.0003 MAC			∑4Pesticides 0.01 AA							∑4Pesticides 0.01 AA			
EPA Interim Guideline Values 2003 (IGV)			0.1											0.01								0.01		
European Union (Drinking Water) Regulations 2014 (DWR)																								
EPA Hazardous Substances Minimum Reporting Value (MRV)			0.001		0.001			0.001					0.01	0.003			0.005			0.015	0.003	0.001	0.01	0.001

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	Heptachlor epoxide	Triadimefon	Pendimethalin	Parathion	o,p-DDE	Chlorfenvinphos	Endosulphan I	Trans-chlordane	cis-Chlordane	p,p-DDE	Dieldrin	o,p-TDE (DDD)	Endrin	o,p-DDT	p,p-TDE (DDD)	Ethion	Endosulphan II	p,p-DDT	Carbophenothion	o,p-Methoxychlor	Triazophos	p,p-Methoxychlor	Endosulphan sulphate
LOD			<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	06/11/2012	6472544	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	06/11/2012	6472545	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	06/11/2012	6472546	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	06/11/2012	6472547	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	06/11/2012	6472548	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	06/11/2012	6472550	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	06/11/2012	6472554	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	06/11/2012	6472555	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Round 2 Monitoring Results																									
BH01	13/11/2012	121116-106																							
BH02	13/11/2012	121116-106																							
BH03	13/11/2012	121116-106																							
BH04	13/11/2012	121116-106																							
BH05	13/11/2012	121116-106																							
BH06	13/11/2012	121116-106																							
SW01 (Upstream)	13/11/2012	121116-106																							
SW02 (Immediately downstream)	13/11/2012	121116-106																							
SW03 (Downstream)	13/11/2012	121116-106																							
Round 3 Monitoring Results																									
BH01	09/01/2013	6758691																							
BH02	09/01/2013	6758693																							
BH03	09/01/2013	6758688																							
BH04	09/01/2013	6758694																							
BH05	09/01/2013	6758692																							
BH06	09/01/2013	6758686																							
SW01 (Upstream)	09/01/2013	6758685																							
SW02 (Immediately downstream)	09/01/2013	6758690																							
SW03 (Downstream)	09/01/2013	6758687																							
Round 4 Monitoring Results																									
BH01	19/11/2013	8456298	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	19/11/2013	8456300	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	19/11/2013	8456302	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	19/11/2013	8456304	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	19/11/2013	8456305	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	19/11/2013	8456306	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	19/11/2013	8456313	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	19/11/2013	8456315	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	19/11/2013	8456317	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Round 5 Monitoring Result																									
BH01	06/10/2020	23000161																							
BH02	06/10/2020	23000162																							
BH03	06/10/2020	23000163																							
BH06	06/10/2020	23000164																							
SW01 (Upstream)	06/10/2020	23000165																							
SW02 (Immediately downstream)	06/10/2020	23000166																							
SW03 (Downstream)	06/10/2020	23000167																							
Round 6 Monitoring Results																									
BH01	20/10/2020	23100210																							
BH02	20/10/2020	23100211																							
BH03	20/10/2020	23100213																							
BH06	20/10/2020	23100214																							
SW01 (Upstream)	20/10/2020	23100207																							
SW02 (Immediately downstream)	20/10/2020	23100208																							
SW03 (Downstream)	20/10/2020	23100209																							
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)													0.075												
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)								0.1 AA 0.3 MAC					∑4Pesticides 0.01 AA		∑4Pesticides 0.01 AA										
EPA Interim Guideline Values 2003 (IGV)									0.001				0.01												
European Union (Drinking Water) Regulations 2014 (DWR)																									
EPA Hazardous Substances Minimum Reporting Value (MRV)						0.01	0.002	0.001				0.002	0.003	0.002	0.003	0.002	0.002			0.002					

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Sample ID	Sample Date	Lab Sample ID	Permethrin I	Phosalone	Permethrin II	Azinphos-methyl	Azinphos-ethyl
LOD			<0.01	<0.01	<0.01	<0.01	<0.01
Round 1 Monitoring Results			µg/l	µg/l	µg/l	µg/l	µg/l
BH01	06/11/2012	6472543	<0.02	<0.01	<0.02	<0.01	<0.01
BH02	06/11/2012	6472544	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	06/11/2012	6472545	<0.02	<0.01	<0.02	<0.01	<0.01
BH04	06/11/2012	6472546	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	06/11/2012	6472547	<0.02	<0.01	<0.02	<0.01	<0.01
BH06	06/11/2012	6472548	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	06/11/2012	6472550	<0.02	<0.01	<0.02	<0.01	<0.01
SW02 (Immediately downstream)	06/11/2012	6472554	<0.02	<0.01	<0.02	<0.01	<0.01
SW03 (Downstream)	06/11/2012	6472555	<0.02	<0.01	<0.02	<0.01	<0.01
Round 2 Monitoring Results							
BH01	13/11/2012	121116-106					
BH02	13/11/2012	121116-106					
BH03	13/11/2012	121116-106					
BH04	13/11/2012	121116-106					
BH05	13/11/2012	121116-106					
BH06	13/11/2012	121116-106					
SW01 (Upstream)	13/11/2012	121116-106					
SW02 (Immediately downstream)	13/11/2012	121116-106					
SW03 (Downstream)	13/11/2012	121116-106					
Round 3 Monitoring Results							
BH01	09/01/2013	6758691					
BH02	09/01/2013	6758693					
BH03	09/01/2013	6758688					
BH04	09/01/2013	6758694					
BH05	09/01/2013	6758692					
BH06	09/01/2013	6758686					
SW01 (Upstream)	09/01/2013	6758685					
SW02 (Immediately downstream)	09/01/2013	6758690					
SW03 (Downstream)	09/01/2013	6758687					
Round 4 Monitoring Results							
BH01	19/11/2013	8456298	<0.01	<0.01	<0.01	<0.01	<0.01
BH02	19/11/2013	8456300	<0.01	<0.01	<0.01	<0.01	<0.01
BH03	19/11/2013	8456302	<0.01	<0.01	<0.01	<0.01	<0.01
BH04	19/11/2013	8456304	<0.01	<0.01	<0.01	<0.01	<0.01
BH05	19/11/2013	8456305	<0.01	<0.01	<0.01	<0.01	<0.01
BH06	19/11/2013	8456306	<0.01	<0.01	<0.01	<0.01	<0.01
SW01 (Upstream)	19/11/2013	8456313	<0.01	<0.01	<0.01	<0.01	<0.01
SW02 (Immediately downstream)	19/11/2013	8456315	<0.01	<0.01	<0.01	<0.01	<0.01
SW03 (Downstream)	19/11/2013	8456317	<0.01	<0.01	<0.01	<0.01	<0.01
Round 5 Monitoring Result							
BH01	06/10/2020	23000161					
BH02	06/10/2020	23000162					
BH03	06/10/2020	23000163					
BH06	06/10/2020	23000164					
SW01 (Upstream)	06/10/2020	23000165					
SW02 (Immediately downstream)	06/10/2020	23000166					
SW03 (Downstream)	06/10/2020	23000167					
Round 6 Monitoring Results							
BH01	20/10/2020	23100210					
BH02	20/10/2020	23100211					
BH03	20/10/2020	23100213					
BH06	20/10/2020	23100214					
SW01 (Upstream)	20/10/2020	23100207					
SW02 (Immediately downstream)	20/10/2020	23100208					
SW03 (Downstream)	20/10/2020	23100209					
European Communities Environmental Objectives (Groundwater) Regulations 2010 as amended (GTV)							
European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended (EQS)							
EPA Interim Guideline Values 2003 (IGV)			20				
European Union (Drinking Water) Regulations 2014 (DWR)							
EPA Hazardous Substances Minimum Reporting Value (MRV)			0.001		0.001	0.001	0.02

= Bioavailable, ∑= sum of values, AA = Annual Mean, MAC = Maximum Allowable Concentration

Key (borehole installations):

Borehole screened across WASTE (Shallow)
Borehole screened across SCHIST BEDROCK (Deep)

Appendix F
Gas Monitoring Results

Appendix F - Table 1: Gas Monitoring Results

Borehole Location	Date	Weather Condition	Atmospheric Pressure (mb)	Max Borehole Flow Rate (l/hr)	Methane		Carbon Dioxide		Max Concentration of Oxygen (%vol/vol)	Characteristic Gas Situation
					Max Concentration (%vol/vol) *	Gas Screening Value (l/hr) **	Max Concentration (%vol/vol) *	Gas Screening Value (l/hr)		
BH04	06/11/2012	Overcast	1019	0.10	0.10	0.0001	2.20	0.0022	18.00	**1**
	14/11/2012	Overcast & Dry	1019	0.10	0.10	0.0001	2.40	0.0024	15.20	**1**
	05/12/2012	Overcast & dry	1014	0.30	0.10	0.0003	2.10	0.0063	17.10	**1**
	07/01/2013	Overcast & Wet	1022	0.10	0.10	0.0001	0.10	0.0001	19.50	**1**
BH05	06/11/2012	Overcast	1019	0.10	0.10	0.0001	0.50	0.0005	19.90	**1**
	14/11/2012	Overcast & Dry	1019	0.10	0.10	0.0001	4.20	0.0042	15.90	**1**
	05/12/2012	Overcast & dry	1014	0.20	0.10	0.0002	5.00	0.0100	18.80	**1**
	07/01/2013	Overcast & Wet	1022	0.20	0.10	0.0002	0.10	0.0002	19.50	**1**
BH06	06/11/2012	Overcast	1019	0.10	0.10	0.0001	**5.80**	0.0058	14.80	**2**
	14/11/2012	Overcast & Dry	1019	0.40	0.10	0.0004	4.20	0.0168	16.90	**1**
	05/12/2012	Overcast & dry	1014	0.10	0.10	0.0001	**5.10**	0.0051	13.20	**2**
	07/01/2013	Overcast & Wet	1022	0.40	0.10	0.0004	0.10	0.0004	19.50	**1**

Appendix F - Table 2: Significant Gas Concentrations in Air

Characteristic Situation (CIRIA R149)	Comparable partners in technology gas regime	Risk classification	Gas screening value (CH4 or CO2) (l/hr) Threshold	Additional Limiting Factors	Typical Source of Gas Generation
1	**A**	**Very low risk**	**<0.07**	Methane <1% and Carbon Dioxide <5% Otherwise consider increase to Situation 2.	Natural soils with low organic content 'Typical' made ground
2	**B**	**Low risk**	**<0.7**	Borehole air flow rate >70l/hr increase to Characteristic Situation 3	Natural soil, high peat/organic content 'Typical' made ground
3	**C**	**Moderate risk**	**<3.5**		Old landfill, inert waste, mine working flooded
4	**D**	**Moderate to high risk**	**<15**	Quantitative risk assessment required to evaluate scope of protection measures	Mine working susceptible to flooding, completed landfill, inert waste (WMP 26B criteria)
5	**E**	**High risk**	**<70**		Mine working unflooded inactive
6	**F**	**Very high risk**	**>70**		Recent landfill site

Appendix F - Table 3: Typical Scope of Gas Protective Measures

Characteristic Situation (From Table 2)	Residential building		Office/Commercial/Industrial Development	
	No. of levels of protection	Typical scope of protective measures	No. of levels of protection	Typical scope of protective measures
1	None	No special precautions	None	No special precautions
2	2	a) Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200g DPM2 and underfloor venting. b) Beam and block or pre-cast concrete and 2000g DPM/reinforced gas membrane and underfloor venting. All joints and penetrations sealed.	1 to 2	a) Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft) with at least 1200g DPM. b) Beam and block or pre cast concrete slab and minimum 200g DPM/ reinforced gas membrane. c) Possibly underfloor venting or pressurisation in combination with a) and b) depending on use. All joints and penetrations sealed.
3	2	All types of floor slab as above. All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised underfloor sub-space.	1 to 2	All types of floor slab as above. All joints and penetrations sealed. Minimum 200g/reinforced gas proof membrane and passively ventilated underfloor sub-space or positively pressurised underfloor sub-space.
4	3	All types of floor slab as above. All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated underfloor subspace or positively pressurised underfloor sub-space, oversite capping or blinding and in-ground venting layer.	2 to 3	All types of floor slab as above. All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised underfloor sub-space with monitoring facility.
5	4	Reinforced concrete cast in situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and ventilated or positively pressurised underfloor sub-space, oversite capping and in-ground venting layer and in-ground venting wells or barriers.	3 to 4	Reinforced concrete cast in-situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and passively ventilated or positively pressurised underfloor sub-space with monitoring facility. In ground venting wells or barriers.
6	5	Not suitable unless gas regime is reduced first and quantitative risk assessment carried out to assess design of protection measures in conjunction with foundation design.	4 to 5	Reinforced concrete cast in-situ floor slab (suspended, non-suspended or raft). All joints and penetrations sealed. Proprietary gas resistant membrane and actively ventilated or positively pressurised underfloor sub-space with monitoring facility, with monitoring. In ground venting wells and reduction of gas regime.

Appendix G
Conceptual Site Model - Section View (Drawing IBR1266/100) – Plan View

ON-SITE SOURCES

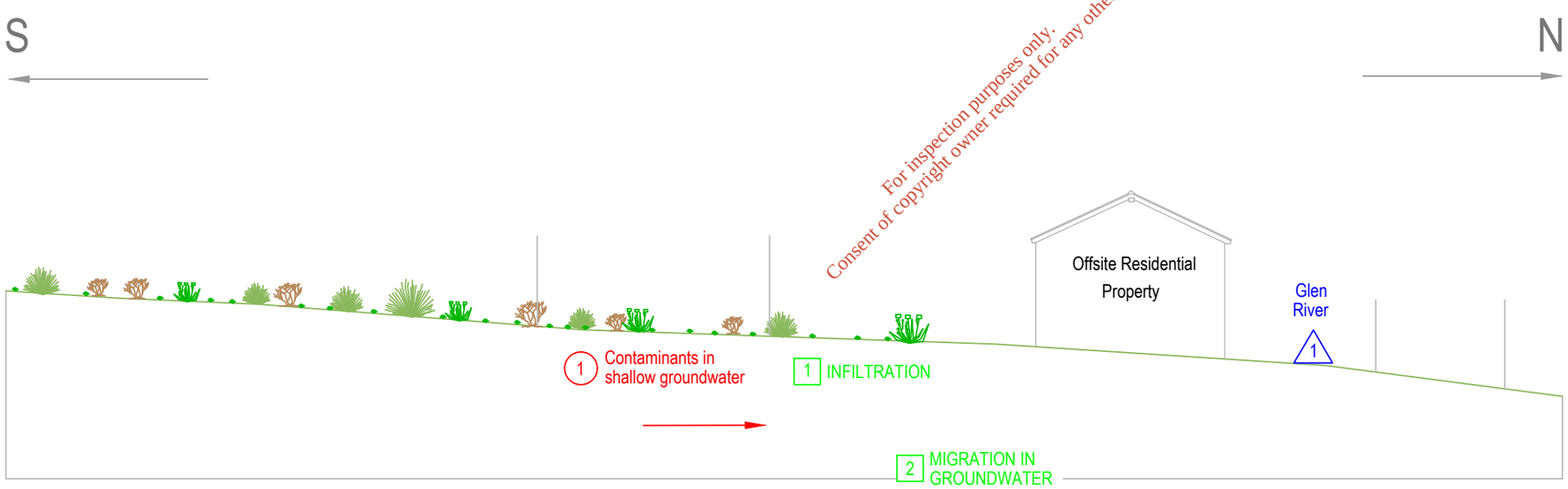
1. Contaminants in shallow groundwater beneath waste body - Ammoniacal Nitrogen, TPH and PAHs.

PATHWAYS

1. Infiltration & leaching from sub-soils
2. Migration in groundwater.

RECEPTORS

1. Glen River - Risk to Glen River is considered to be LOW



NOTES

1. Verifying Dimensions.
   The contractor shall verify dimensions against such other drawings or site conditions as pertain to this part of the work.
2. Existing Services.
   Any information concerning the location of existing services indicated on this drawing is intended for general guidance only. It shall be the responsibility of the contractor to determine and verify the exact horizontal and vertical alignment of all cables, pipes, etc. (both underground and overhead) before work commences.
3. Issue of Drawings.
   Hard copies, dwf and pdf will form a controlled issue of the drawing. All other formats (dwg, dxf etc.) are deemed to be an uncontrolled issue and any work carried out based on these files is at the recipients own risk. RPS will not accept any responsibility for any errors arising from the use of these files, either by human error by the recipient, listing of un-dimensioned measurements, compatibility issues with the recipient's software, and any errors arising when these files are used to aid the recipients drawing production, or setting out on site.
4. Datum.

rev	amendments	check	date
B	Addition of house	CD	10/05/21

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Client
Donegal County Council

Project
Carrick Historic Landfill

Title
Conceptual Model

Project Number	Sheet Size	Drawing Scale
IBR1266	A3	NTS

Drawing Number
100

Drawn By	Status	Revision
GC	Final	B

Checked By	Approved By	Date
CD	JMcG	10/05/2021